

**THE TOP iOS GAMES REVIEWED**

# iPad & iPhone user

APP REVIEWS, TIPS AND BUYING ADVICE FOR iOS ADDICTS

## APPLE'S NEW IPHONES

**All your questions answered**



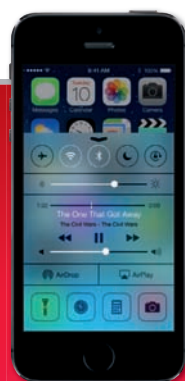
## iPhone 5s v iPhone 5c

- UK pricing, from £19.99
- Which iPhone to choose
- Best new features

GET READY FOR  
**iOS7**



**How this update  
will transform  
your iPhone**



## contact...

### EDITORIAL

Editor	Karen Haslam <a href="mailto:karen_haslam@idg.co.uk">karen_haslam@idg.co.uk</a>
Reviews editor	Andrew Harrison <a href="mailto:andrew_harrison@idg.co.uk">andrew_harrison@idg.co.uk</a>
Managing editor	Marie Brewis <a href="mailto:marie_brewis@idg.co.uk">marie_brewis@idg.co.uk</a>
Art director	Mandie Johnson <a href="mailto:mandie_johnson@idg.co.uk">mandie_johnson@idg.co.uk</a>
Production editor	Rob Woodcock <a href="mailto:rob_grant@idg.co.uk">rob_grant@idg.co.uk</a>
Multimedia editor	Dominik Tomaszewski <a href="mailto:dominik_tomaszewski@idg.co.uk">dominik_tomaszewski@idg.co.uk</a>
Senior staff writer	Chris Martin <a href="mailto:chris_martin@idg.co.uk">chris_martin@idg.co.uk</a>
Staff writer	Ashleigh Allsopp <a href="mailto:ashleigh_allsopp@idg.co.uk">ashleigh_allsopp@idg.co.uk</a>
Online editor	David Price <a href="mailto:david_price@idg.co.uk">david_price@idg.co.uk</a>
Online editor	David Court <a href="mailto:david_court@idg.co.uk">david_court@idg.co.uk</a>
Associate editor	Neil Bennett <a href="mailto:neil_bennett@idg.co.uk">neil_bennett@idg.co.uk</a>
Associate editor	Jim Martin <a href="mailto:jim_martin@idg.co.uk">jim_martin@idg.co.uk</a>
Editor-in-chief	Matt Egan <a href="mailto:matt_egan@idg.co.uk">matt_egan@idg.co.uk</a>

### Contributors

Peter Belanger, Christopher Breen, Serenity Caldwell, Robert Cardin, Dan Frakes, Lex Friedman, James Galbraith, Chris Holt, Joe Kissell, Joel Mathis, Kirk McElhearn, Dan Moren, Tom Negrino, Dan Page, Leah Yamshon

### ADVERTISING

Head of advertising 020 7756 2830	Tom Drummond <a href="mailto:tom_drummond@idg.co.uk">tom_drummond@idg.co.uk</a>
Account manager 020 7756 2837	Edward Longmate <a href="mailto:edward_longmate@idg.co.uk">edward_longmate@idg.co.uk</a>
Account manager 020 7756 2833	Tom How <a href="mailto:thomas_how@idg.co.uk">thomas_how@idg.co.uk</a>
Sales executive	Becky Clewarth
Account executive 020 7756 2834	Lucie Gillespie <a href="mailto:lucie_gillespie@idg.co.uk">lucie_gillespie@idg.co.uk</a>

### MARKETING

Marketing manager	Ash Patel
Head of marketing design	James Walker
Affiliate manager	Letitia Austin

### FINANCE

Financial director	Chris Norman
Credit controller	Dawnette Gordon
Purchase ledger clerk	Lyn Mc Nicol
Management accountant	Parit Shah

### PUBLISHING

Publishing director 020 7756 2808	Simon Jary <a href="mailto:sj@idg.co.uk">sj@idg.co.uk</a>
Managing director	Kit Gould

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## Welcome / By David Price

# Hate iOS 7? Give it a month

iOS' radical new look will take some getting used to

Even in the fast-paced world of technology, change can be hard to cope with. We're all aware of the proverbial pram-emptying whenever Facebook changes its timeline format, and things very nearly turned ugly when Microsoft got rid of the Start button in Windows 8. We like our tech innovations to stay exactly the way we're used to them – paradoxical, perhaps, but understandable.

With its latest update to iOS, Apple has run into the same mentality. After slowly evolving its interface since the first iPhone OS, the firm's designers abruptly decided to make a visual leap somewhat akin to the switch to colour in *The Wizard of Oz*. The palette has been transformed from muted to vibrantly acidic; transparency and parallax effects create the illusion of a deep, layered screen; borders, colour gradients and skeuomorphic elements have been banished. It looks nothing like the iOS we know. It's scary. It's new.

How have users responded to the revamp? A few like it, but most find it bewildering, with critics calling iOS 7 everything from gaudy and amateurish to 'the love child of Android and Windows'. Some find the interface confusing. Others think it's ugly, or flat, or simply gratuitous. As hockey-mom tricoteuse



The palette has been transformed from muted to vibrantly acidic

Sarah Palin put it: "How's that hopey-changey stuff working out for ya?" Not great, Sarah. Not great.

But let's give it time. The success of a computing interface is vastly dependent on familiarity (a principle which cynics might say influenced some design choices made by Apple's rivals). And those comfortable old trainers are always going to feel nicer than your new pair. You just need to wear them in, that's all.

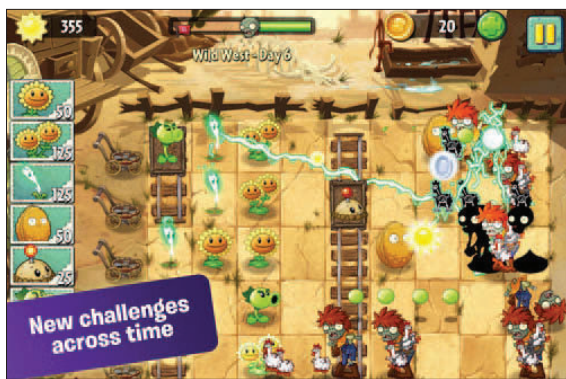
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Ashleigh Allsopp presents the best accessories for your iOS device



**New & Noteworthy**

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Ashleigh Allsopp presents the best new entertainment for your iPhone & iPad



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Our pick of the best iPhone & iPad games

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Apple's ability to control all parts of the music experience helped its online music outlet triumph

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iOS 7 may sport a new look, but the most important changes are elsewhere

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**Feature**

**Meet the iPhone 5S and 5c**

Everything you need to know about Apple's new handsets

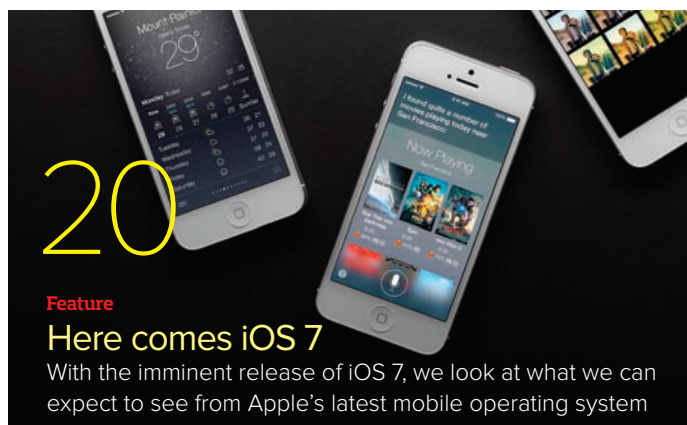


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**Feature**

**Here comes iOS 7**

With the imminent release of iOS 7, we look at what we can expect to see from Apple's latest mobile operating system

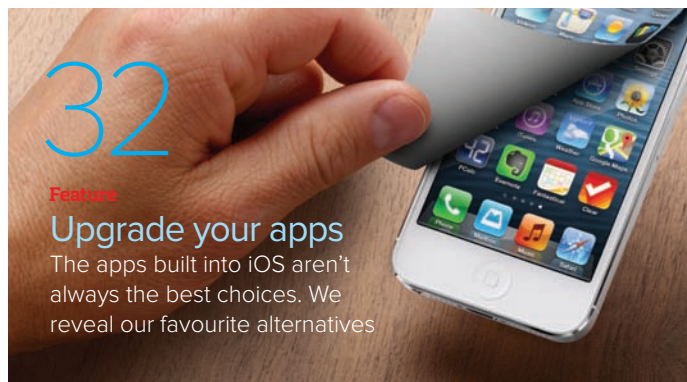


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**Feature**

**Upgrade your apps**

The apps built into iOS aren't always the best choices. We reveal our favourite alternatives



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**Feature**

**iPad at Work**

We show you how to make your iPad a better business tool. Whether its making a presentation or syncing or opening files, we've got it covered



## New & noteworthy

Ashleigh Allsopp presents the best new kit for your iPhone & iPad



### Burst of colour

#### AQ SmartSpeaker Wireless (A2)

£129, plus £5 per colour cover

[aqaudio.com](http://aqaudio.com)

AQ Audio's AQ SmartSpeaker Wireless (A2) is now available in a variety of new colours, including red, orange, green and violet. If you purchase more than one, you'll be able to create stereo sound and multiroom audio – AQ Audio is currently offering a discount on multiple purchases. It's AirPlay compatible, making playing music from an iOS device a cinch, though you'll first need to download the app (free, [tinyurl.com/orn6e99](http://tinyurl.com/orn6e99)). Despite its small size, the speaker doesn't have a built-in battery, so you'll have to plug it in to the mains. It can be used to charge up your iOS device, though.

**VERDICT:** The new SmartSpeaker colours could make a bright, stylish addition to your home.

### Book club

#### Bayan Soundbook

£149

[bayanaudio.com](http://bayanaudio.com)

The Soundbook is a small, portable wireless stereo speaker that uses Bluetooth to play audio from your device. Bayan Audio promises up to 10 hours of wireless music streaming on a single charge. In addition, the device has integrated FM radio and a built-in microphone to allow hands-free calls. The protective cover opens up like a book (hence the name Soundbook) and doubles as a stand, too. This cover is also used as an on/off switch, automatically turning off the Soundbook when closed and turning it on when opened, reminiscent of Apple's Smart Cover for iPad.



**VERDICT:** Small and portable, the Bayan Soundbook could come in handy on a trip to the park or the beach.



### Magnetic mount

#### Steelie Car Mount Kit

£34

[niteize.com](http://niteize.com)

The Steelie Car Mount kit is a magnetic mobile mount that can hold your iPhone or other device in place on your car's dashboard. The socket design means you can position your iPhone at any angle, making it ideal for use as a satnav, a way for passengers to watch movies, or for hands-free calls.

**VERDICT:** This simple, stylish idea could be just the accessory you need for long journeys.



## Sounds professional

### AKG K712 PRO

£349

[uk.akg.com](http://uk.akg.com)

Aimed at users who are looking for a set of headphones for precise listening, mixing and mastering, the K712 PROs are open, reference headphones that AKG says provide a spacious and airy sound. Made from genuine soft leather they have been designed to be worn for lengthy periods, with a comfortable and lightweight fit. An additional coiled cable and carrying bag are also included with the headphones.



**VERDICT:** Professional music producers could benefit from precise and powerful sound of the K712 PROs.

## Music share

### WeSC Piston

£40

[wesc.com](http://wesc.com)

Swedish apparel and headphone brand WeSC's Piston headphones new Autumn/Winter 2013 collection features eye-catching and stylish prints. The Pistons have a music-sharing functionality, too. Each pair can be plugged in to a friend's Pistons, so you can listen to the same music if you choose to.



**VERDICT:** If you enjoy listening to music with others, these could come in handy for doing so in public places.

## CATWALK The best-looking accessories



Everything tablet  
iPad mini 360° case  
PRICE: £24  
URL: [everythingtablet.co.uk](http://everythingtablet.co.uk)



Proporta Frankie Universal case  
PRICE: £34  
URL: [proporta.co.uk](http://proporta.co.uk)

Lastucase for iPad mini  
PRICE: €69 (£59)  
URL: [lastucase.com](http://lastucase.com)



# New & noteworthy

Ashleigh Allsopp presents the best new entertainment for your iPhone & iPad



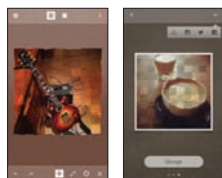
## VLC for iOS (free)

RATING ★★★★★

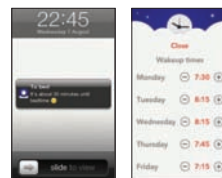
This free universal app brings the VLC media player to the iPad, iPod and iPhone. For those of you who are used to converting your movies and TV shows on your Mac before syncing them to your iOS device, VLC for iOS makes watching that content a lot easier, because you'll no longer need to convert it.

Although we encountered a few teething problems with the new, improved version of the app, it's still free and the developers are quick to update when an issue becomes apparent, so it's worth giving it a go.

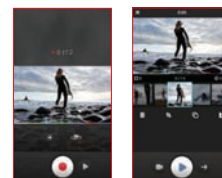
## New apps on iTunes



**Photochop (free)**  
Big Bucket Software's Photochop is a neat free app that can help you add some cool effects to your iPhone pictures. It breaks your image into tiles, which you can then scale, rotate and nudge to make interesting-looking collages. Once you're happy, you can share the result with your friends on Facebook, Twitter or Instagram.

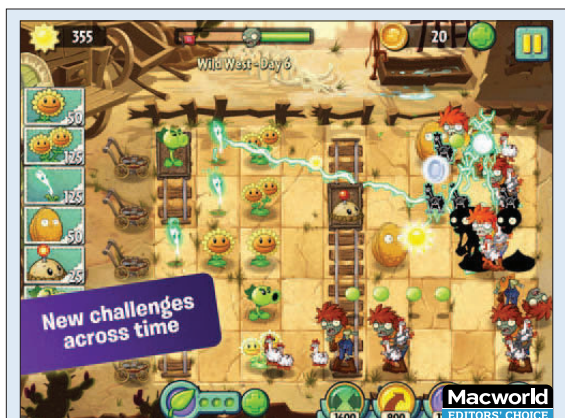


**To Bed (69p)**  
We all occasionally need an early night, especially if we've got an early start the following morning. That's where To Bed comes in. Input your age and what time you need to get up and the app tells you what time you need to go to bed. And if you forget, To Bed will send you timely reminders, so you've no excuse for not hitting the sack.



**MixBit (free)**  
Created by YouTube co-founders, Chad Hurley and Steve Chen, MixBit enables you to put together short films. The app lets you record, edit and publish clips from your iPhone. Videos are created by putting together a series of 'clips', each of which can be up to 16 seconds long. These can then be uploaded to MixBit.com, where they can be viewed by Mixbit users.

## New games on iTunes

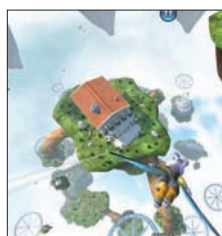


## Plant vs Zombies 2 (free)

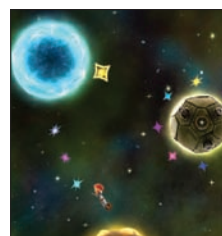
RATING ★★★★★

The long-awaited sequel to PopCap's award-winning Plants vs. Zombies game has finally hit the iOS App Store. Fans of the original will enjoy the familiar tower defence gameplay, but will also be treated to new plants and gameplay mechanics. The time-travel theme adds extra fun to the game, taking players to ancient Egypt and beyond. And there are even zombie chickens.

Unfortunately, as with so many games, there are in-app purchases. While you can complete Plants vs. Zombies 2 without them, they are massively appealing due to the difficulty that comes with finding stars to unlock new levels and plants.



**Cloud Spin (£1.49)**  
This cute and colourful adventure sees players control Lucky the rabbit as he soars through the skies. There are two game modes for you to master – Tournament and Free Flight. The first of these sees you dodging hazards, and trying to pick up as many points as possible. If you fancy something a bit more laid back, then you should opt for Free Flight, in which you can explore the beautiful environments at your own pace.



**Little Galaxy (69p)**  
Gorgeous graphics and simple but challenging gameplay makes Little Galaxy a joy to play. Space jump through solar systems from one planet to another with just one touch, catching stars as you go. You'll need to be careful, though. If you miss your target you'll go flying off into the void. Little Galaxy is highly addictive game, so you'll be pleased to know that there are dozens of levels for you to master.



**Sky Tourist (69p)**  
Sticking with the space and flying themes, Sky Tourist follows Petey Pendant as he zips through the universe collecting souvenirs and taking pictures using his home-made space travel technique. There are 75 levels across three worlds for you to explore, though, the locals don't seem so keen on welcoming our hero. They've hidden their secrets and Pete will have to overcome obstacles and solve puzzles if he's to collect all the souvenirs.





### Disney Animated (£9.99)

Fans of Disney will absolutely love this app. Packed full of breathtaking images, you'll be able to discover how Disney films are put together.



### dJay 2 (69p)

Following on from the success of the original dJay app, this new offering has been redesigned to bring new features to the DJ system. It's available for both iPad and iPhone.



### Aero (69p)

This slick app uses animations and simple type to bring you the weather forecast. It can also tell you what you can expect in the week ahead.



### vividHDR (£1.49)

This photography app lets you take High Dynamic Range (HDR) photos using your iPad or iPhone. Use the slider along the bottom to adjust the result.



### Viz (£1.49)

Viz lets you create charts using your iPhone. Just enter your data, pick your chart type and colour schemes, and then save or share the result.



### Agenda Calendar 4 (69p)

Agenda Calendar's minimalist design and colour-coded dots make it easy to see what you've got planned.

## New movies, television and music on iTunes

### Travis: Where You Stand (from £7.99)

Where You Stand is the latest studio album from Scottish rock band Travis, and their first for five years. It's available in a number of formats – a standard £7.99 edition and a Deluxe Version, £10.99, that includes five music videos.



### Dexter, Season 8 (season pass £25.99)

Michael C. Hall plays Dexter, our favourite serial killer (yes, you read that right). He's back for his eighth and final season, but will he get his comeuppance? You'll have to watch to find out.



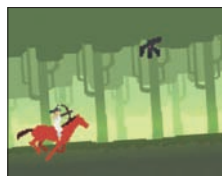
### Under the Dome (season pass £25.99)

Based on the book by Stephen King, Under the Dome is a new TV series that sees residents of Chester's Mill discover that they have become trapped under an impenetrable dome and cut off from the rest of the world, causing panic and destruction among the town.



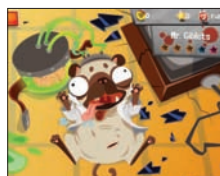
### Trial By Survival (free)

In a post-apocalyptic world, players will need to fight to survive in this iOS game. There are two modes for you to master, as well as randomised levels.



### A Ride Into The Mountains (69p)

Saddle up and reach for your bow and help a young man ride into the mountains and use his archery skills to fight an evil force.



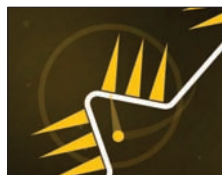
### Amateur Surgeon 3 (free)

Oddly addictive and surprisingly challenging, Amateur Surgeon 3 sees you playing as Ophelia, a trainee surgeon.



### Worms 3 (£2.99)

Worms 3 expands upon the classic Worms gameplay that began in the 90s, with new card mode and collectable in-game reward cards, and a Class system.



### Pivot (£1.99)

Test your reaction speed in this arcade-style game. There are five game modes to unlock: Voyage, Endless, Expert Voyage, Expert Endless and Berserk.



### Dropchord (£1.99)

Collect glowing orbs while avoiding bolts of electricity in this beautiful-looking game. Looking like nothing we've seen, it'll soon have you hooked.

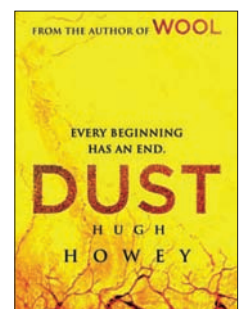
### Oblivion (£13.99)

Tom Cruise and Morgan Freeman star in this sci-fi movie, which follows Jack Harper on his mission to extract resources from abandoned Earth. However, when the woman from his dreams crash lands in a spaceship, he starts to question his beliefs.



### Dust (£8.99)

The final instalment in Hugh Howey's Wool trilogy has arrived on the iTunes Store. Set on post-apocalyptic Earth that has forced the human race underground. Literally, it's a dystopian gem, and 20th Century Fox has already snapped up the film rights for the series.





# iOS Gems

Software for your iPhone, iPod touch and iPad

## GAME

### Star Command

£1.99, [tinyurl.com/19qfgpo](http://tinyurl.com/19qfgpo)  
★★★★☆

In this challenging and addictive strategy game, loosely based on *Star Trek*, you get a ship and a crew, and you use both to fight enemies over several missions. At first, combat is a little overwhelming and not particularly well explained; just when we got used to ordering the crew around, the game threw us into battle and forced us to manage a dozen things at once. But after you get the hang of combat, you'll wish you had more stuff to do and more things to fight.

Our biggest issue with *Star Command* is its narrow focus. We love visiting planets, meeting a diverse spectrum of aliens and organising the ship. But every battle involves enemies boarding your ship – you can't send an away team to attack theirs. You also can't explore and gain resources as an alternative to fighting, and no matter how you interact with an alien species, they're always going to attack. Still, *Star Command* can be sweet and surprisingly clever, with strong writing and well-thought-out character design. A great game makes you want to spend more time exploring and understanding its universe; with *Star Command*, we can't wait to get lost again in pixelated space. – CHRIS HOLT

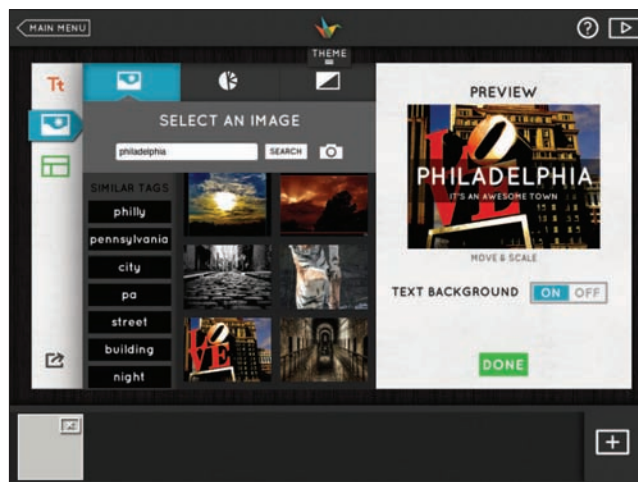


## PRODUCTIVITY

### Haiku Deck

free, Giant Thinkwell Inc, [tinyurl.com/lyravs2](http://tinyurl.com/lyravs2)  
★★★★★

There was a time when PowerPoint presentations were seen as an answer to the age-old question of how to liven up dull meetings. That promise soon gave way to a reality where such presentations – poorly thought out or uncreative – have possibly made workplace meetings even more boring. Enter Haiku Deck, a free app that lets you craft a good-looking presentation quickly. You can choose from five free themes; 11 more are available to buy, for £1.49 apiece or £10.49 for a Theme Pack. Each new slide can have an animated graph, text on a solid slide, or text atop a picture. You can select your own photos from Facebook, Flickr, Instagram or your camera roll, or choose any of the 35 million available stock images. Once you've finished your slideshow, you can save it to the service's website. Alternatively, you can export it to PowerPoint or Keynote, or leave it in the app and show it via AirPlay mirroring. Haiku Deck produces professional and elegant results. – JOEL MATHIS

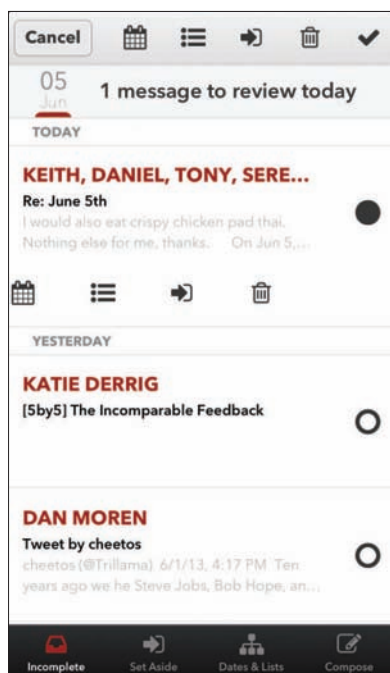


## EMAIL

# Mail Pilot

£10, Mindsense, [tinyurl.com/kevxp6](http://tinyurl.com/kevxp6)  
★★★★☆

Many people use their email as a to-do list, noting bills to pay, calls to make, and the like. Mail Pilot helps you clear up the mess by choosing when to deal with new messages, rather than where to put them. Arriving email is 'Incomplete', and you can file it for another day, file it indefinitely, send it to a Mail Pilot list, or mark it as done, archived, or deleted. Unfortunately, 10 to 15 per cent of our messages failed to get from the Inbox/Incomplete list to their destination. We suspect this isn't entirely Mail Pilot's fault; but missing email is scary, especially when you have no option for undoing your selection. When the app works, it's nifty. Mail Pilot is certainly promising. – SERENITY CALDWELL



## PRODUCTIVITY

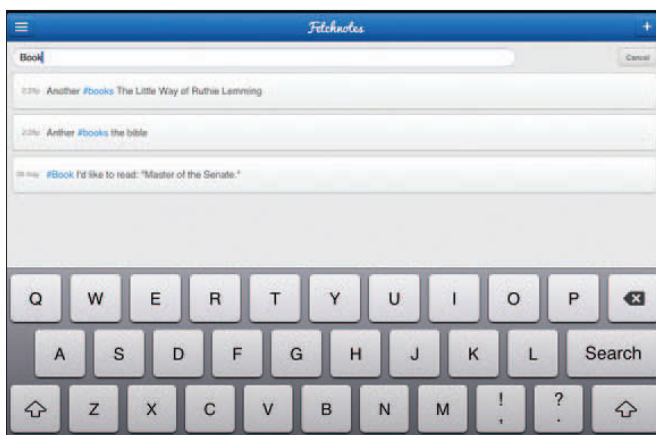
# Fetchnotes

free, Fetchnotes, [tinyurl.com/n3q3pcc](http://tinyurl.com/n3q3pcc)  
★★★★☆

Simple note-taking apps seem to be on the rise. Fetchnotes belongs to this category, but it left us wishing that its developers had filled out its slender roster of features. After you create an account to make notes accessible from any device, you tap a '+' (plus) symbol and type a thought. You can apply hashtags, but their purpose is confusing. The #books tag, for example, seems intended to generate a link to Amazon for the book you want; in our tests, however, a note referring to the *Bible* created an Amazon link to an obscure work by an anonymous author. And tapping the hashtagged word doesn't show you other notes with the same hashtag. Similarly, you can mention a friend on Fetchnotes using a

Twitter-like '@nickname'. The problem is that you have no way to tell whether that friend is using Fetchnotes, and you can't search for people in your contacts list.

If all you want to do is to jot down the occasional 'remember this' item, Fetchnotes can handle the task. But if you need to organise or share your notes, the app's features fall short. You're better off with Simplenote (free, [tinyurl.com/intv8h](http://tinyurl.com/intv8h)), or Apple's native Notes app. – JOEL MATHIS



## PRODUCTIVITY

# StoryPress

free, GhostGear Labs, [tinyurl.com/lc3una5](http://tinyurl.com/lc3una5)  
★★★★☆

If you've ever wanted to write down your family's history, StoryPress is a handy app that helps you record oral histories.

After you log in with an email address or your Facebook account, StoryPress jumps right into the creative process. Enter your name, the year of your birth, and then create a cover for your first book. The cover includes the title, an icon from a list provided by the app, and a photo from your iPad library.

You are then prompted to select a method of recording your tale. Select 'Dictation' if you already know precisely the story you want to tell. Most people will, however, want to use the second option – Interview Me – which gives you a choice of more than a dozen categories, each featuring an interview template of roughly a dozen questions or more.

Once you've finished, you'll upload the finished book to StoryPress.com, choosing to do so either in private or public mode. Both modes allow you to share your story with friends and family via Twitter, Facebook, or email. If you save a story publicly, it becomes part of StoryPress's social network of people who trade stories about the past.

This is a good app. It's easy to use, and has crystal clear recording – but there are some items on our wish list for future editions of StoryPress. Oral histories can be rich, but it would nicer if there were more visual elements at play: the ability to add more photos of an event being described, at the very least, or perhaps the ability record video interviews. – JOEL MATHIS

# 20 best iOS games

Alec Meer and Cliff Joseph select their favourite iPhone and iPad games

## 1 XCOM: Enemy Unknown

**Developer:** Firaxis, firaxis.com

**iOS App Store:** [tinyurl.com/p7pzwxt](http://tinyurl.com/p7pzwxt)

**Price:** £13.99

You're the commander of a global taskforce attempting to defend Earth from the worst scum of the universe. This is very much a game about snatching victory from the jaws of defeat, and somewhat justifying that high price is how replayable its already 20 hour+ campaign is.



**Read more at** [tinyurl.com/noghc75](http://tinyurl.com/noghc75)

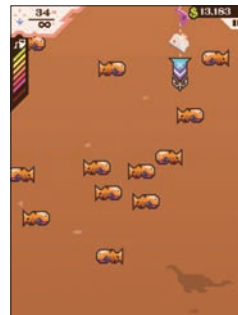
## 2 Ridiculous Fishing

**Developer:** Vlambeer, vlambeer.com

**iOS App Store:** [tinyurl.com/cuxfuzu](http://tinyurl.com/cuxfuzu)

**Price:** £1.99

Cast your line to have it descend, while attempting to avoid the bizarre, angular sea life lurking in the waters below. For once you fail in your frantic tilting of your device and wind up hitting something with the hook, it's coming straight back up at speed. Only then do you try to make it catch any and everything.



**Read more at** [tinyurl.com/oxztx5s](http://tinyurl.com/oxztx5s)

## 3 Hundreds

**Developer:** Semi Secret Software, semisecretsoftware.com

**iOS App Store:** [tinyurl.com/a7typbw](http://tinyurl.com/a7typbw)

**Price:** £2.99

Visually a simple but striking game of growing and shrinking spheres, the challenge in every one of Hundred's increasingly inventive levels is to drag those spheres until the numbers within them total 100. If a sphere touches anything else onscreen, both it and its number shrink.



**Read more at** [tinyurl.com/pmvvqyw](http://tinyurl.com/pmvvqyw)

## 4 10000000

**Developer:** EightyEight Games, eightyeightgames.com

**iOS App Store:** [tinyurl.com/pyqmaqg](http://tinyurl.com/pyqmaqg)

**Price:** £1.49

10000000 is an indie gem. Your pixel-art adventurer is imprisoned in a dungeon filled with monsters, locked doors and occasional loot, but while he'll run himself through its corridors, you're required to rapidly play a sort of high speed, high stakes Connect Four whenever he encounters any kind of obstacle.



**Read more at** [tinyurl.com/qgldl34](http://tinyurl.com/qgldl34)

## 5 Minecraft: Pocket Edition

**Developer:** Mojang, mojang.com

**iOS App Store:** [tinyurl.com/op3jrbr](http://tinyurl.com/op3jrbr)

**Price:** £4.99

Needing little introduction even to anyone who doesn't know much about games, Minecraft is included here not because of its popularity, but because of the incomparable toy box it offers. On the one hand, it's an infinite Lego set, with the option to build (and destroy) anything you and/or your kids can imagine. On the other, it's freeform survival odyssey wherein you craft everything you need to survive the night-time assault of creepy-crawlies from the block-based, destructible world around you. The tools, the look, the interface are all so simple, yet Minecraft never manages to be anywhere near the same twice. The secret of its success is that it can be a game for non-gamers as well as virtual survivalists. Just build, for the simple pleasure of building. You'll be amazed by what you manage to come up with out of stone, wood and perhaps a bit of wool.





## 6 Joe Danger

**Developer:** Hello Games, [hellogames.org](http://hellogames.org)

**iOS App Store:** [tinyurl.com/o68lg7m](http://tinyurl.com/o68lg7m)

**Price:** 69p

Another console success that's since tried its luck on mobile, Joe Danger is smart enough to realise that trying to recreate thumbstick-based controls on a touchscreen is a fool's errand. Instead, this is a new swing at the hyper-cheerful motorbike-based puzzle/platform game. You're in control of the titular stuntman, who drives himself across a series of increasingly arcane, lethal and gag-paged obstacle course, but requires you to dodge, jump and pirouette frantically/clumsily in order to avoid calamity and grab bonuses. It's one of those games that's as much about the merriment of comically pathetic defeat as beating the thing. True, the controls can be a little frustrating, but making up for that is the game's remarkable hit rate of throwing new stuff at you.

**Read more at** [tinyurl.com/q8na4ej](http://tinyurl.com/q8na4ej)



## 7 Rebuild

**Developer:** Sarah Northway, [sarahnorthway.com](http://sarahnorthway.com)

**Price:** [tinyurl.com/oy9dlaq](http://tinyurl.com/oy9dlaq)

**Price:** £1.99

Your challenge is to get a zombie-filled city back on its feet, by recruiting other survivors, clearing strategically valuable areas of the undead, scouting for food sources and building defences. Tense and involving, Rebuild's a fresh, thoughtful take on a theme that can so often seem done to death.



**Read more at** [tinyurl.com/pnbrffk](http://tinyurl.com/pnbrffk)

## 8 The Walking Dead: The Game

**Developer:** Telltale Inc, [telltalegames.com](http://telltalegames.com)

**iOS App Store:** [tinyurl.com/azt8rad](http://tinyurl.com/azt8rad)

**Price:** Free, then £2.99 per episode

Telltale's The Walking Dead is the polar opposite of the TV show of the same name. The zombie stuff is a (frightening) backdrop to people interacting. Unafraid to kill off cast members, but more importantly it requires you to make decisions about who lives, who dies, who's a friend and who's an enemy.



**Read more at** [tinyurl.com/pqttrp7](http://tinyurl.com/pqttrp7)

## 9 Star Wars: Knights of the Old Republic

**Developer:** Bioware, [bioware.com](http://bioware.com)

**iOS App Store:** [tinyurl.com/l95yeb3](http://tinyurl.com/l95yeb3)

**Price:** £6.99

If ever there was a sign of how far iOS devices have come as a gaming platform, it's this. KOTOR adds far more depth and nuance to the endless Jedi vs Sith war than the films ever did, having you make heartbreaking moral choices in addition to the hitting things with a lightsaber.



**Read more at** [tinyurl.com/ok7we7w](http://tinyurl.com/ok7we7w)

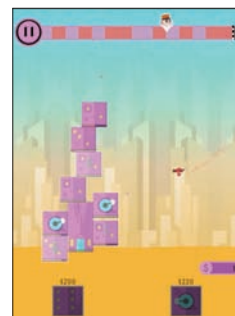
## 10 Bad Hotel

**Developer:** Lucky Frame, [luckyframe.co.uk](http://luckyframe.co.uk)

**iOS App Store:** [tinyurl.com/pwtul2](http://tinyurl.com/pwtul2)

**Price:** 69p

Bad Hotel offers an inventive, frantic new take on the tower defence concept. Rather than setting towers and turrets down in an arena, you build a freeform, impossible tower of offences and defences, as part of an attempt to defend it from the attackers thrown at it by its insurance claim-hungry owner.



**Read more at** [tinyurl.com/ozjwgs7](http://tinyurl.com/ozjwgs7)

## 11 Field Runners 2

**Developer:** Subatomic Studios, subatomicstudios.com

**iOS App Store:** [tinyurl.com/pfx87e3](http://tinyurl.com/pfx87e3)

**Price:** £2.99

Field Runners 2 is a traditional tower defence through and through. What it does do, as well as looking spanking gorgeous, is take those familiar battle arenas, marching men and spinning turrets about as far as they can possibly go. The head count is larger, the range of turrets and upgrades is higher, while the cartoon carnage is spectacular to behold. It's also very careful to make each level a little different to the last, using subtle and dramatic twists to its environment to ensure you're thinking and adapting anew, not just grimly laying down the same turret patterns again and again. Yes, it is 'just' a tower defence game, of the sort which litter the App Store, but quite simply it does that in a far better, smarter and more varied way than any of its innumerable competition.

**Read more at** [tinyurl.com/ov2t6tf](http://tinyurl.com/ov2t6tf)



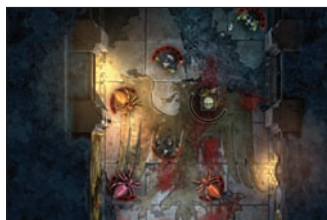
## 12 Warhammer Quest

**Developer:** Rodeo Games, rodeogames.co.uk

**iOS App Store:** [tinyurl.com/qjarxxm](http://tinyurl.com/qjarxxm)

**Price:** £2.99

A combination of turn-based strategy and light roleplaying, Warhammer Quest involves taking a small squad of adventurers through a series of monster-packed dungeons, and using tactics, magic and resolve to survive. It does a good job of capturing the strategy and setting of the Warhammer world.



**Read more at** [tinyurl.com/p2s5m9d](http://tinyurl.com/p2s5m9d)

## 13 Small World

**Developer:** Days of Wonder, daysofwonder.com

**iOS App Store:** [tinyurl.com/ofesgcr](http://tinyurl.com/ofesgcr)

**Price:** £4.99

Small World is a board game that's been scaled down to just two players. Each one controls a fantasy civilization – elves, dwarves, and so on – battling with other races for territory. The twist is that each faction is doomed to extinction, and it's up to each player to decide when the best time to retire their ever-dwindling race and bring in a new, full strength one is.



## 14 Grand Theft Auto: Vice City

**Developer:** Rockstar Games, rockstar.com

**iOS App Store:** [tinyurl.com/cp6q23l](http://tinyurl.com/cp6q23l)

**Price:** £2.99

Grand Theft Auto games have become increasingly self-regarding, but Vice City is stylish, smart and playful. The meticulously-selected soundtrack and the neon colour scheme plays a big part in this, of course, but a storyline that riffs off any number of 80s crime movies keeps it high in character, too.



**Read more at** [tinyurl.com/nl4jr28](http://tinyurl.com/nl4jr28)

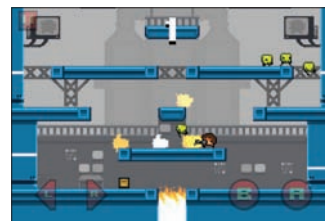
## 15 Super Crate Box

**Developer:** Vlambeer, vlambeer.com

**iOS App Store:** [tinyurl.com/otptryy](http://tinyurl.com/otptryy)

**Price:** £1.49

Super Crate Box takes its cue from early Donkey Kong games, adding in guns, instant failure and instant starting over. As enemies drop from the ceiling, crates appear across the level, you need to grab them without being killed. Simple, hilarious, and a perfect example of 'just one more go...' gaming.



**Read more at** [tinyurl.com/oos56wh](http://tinyurl.com/oos56wh)

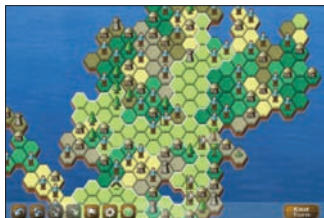
## 16 Slay

**Developer:** Sean O'Connor, windowsgames.co.uk

**iOS App Store:** [tinyurl.com/pzx3ndm](http://tinyurl.com/pzx3ndm)

**Price:** £2.49

It's a few years old, but this clever strategy game never quite got the attention it deserved. A lot of that's down to its overly plain appearance – a new version with brand new art would do it the world of good. Even so, once you're playing and have your eye on the goal, the last thing you're going to care about is what your villagers, soldiers and knights look like.



## 17 Ending

**Developer:** Aaron Steed, robotacid.com

**iOS App Store:** [tinyurl.com/qbwep4o](http://tinyurl.com/qbwep4o)

**Price:** £1.49

Ending is much more than its monochrome ASCII art suggests. A combination of maze-based puzzle game and 'rogue-like' dungeon crawler, it's a game where every single step your character takes is important. You need to 'touch' enemies before they touch you, otherwise you have to restart the level.

**Read more at** [tinyurl.com/qzg44aq](http://tinyurl.com/qzg44aq)



## 18 Waking Mars

**Developer:** Tiger Style, tigerstylegames.com

**iOS App Store:** [tinyurl.com/p6asmnm](http://tinyurl.com/p6asmnm)

**Price:** £2.99

A difficult game to describe, so 'sci-fi botany platformer with jet packs' will have to do. But if planting seeds sounds a little too *Gardener's World* for your liking, bear in mind the plants lob missiles, eat each other, block or open doorways or bring titanic crystalline structures to life.

**Read more at** [tinyurl.com/qfrksc8](http://tinyurl.com/qfrksc8)



## 19 Super Hexagon

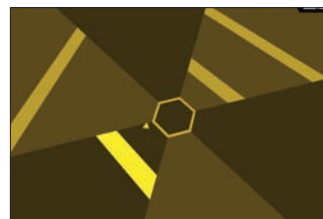
**Developer:** Terry Cavanagh, superhexagon.com

**iOS App Store:** [tinyurl.com/pxjhxxb](http://tinyurl.com/pxjhxxb)

**Price:** £1.99

It's very easy to get into a trance when playing Super Hexagon. You play a tiny arrow on the edge of the hexagon, and it's your role in proceedings to rotate around the centre to ensure that you're never crushed by the incoming shapes. It sounds easy, but the twitchy gameplay is addictively difficult.

**Read more at** [tinyurl.com/qjpqeag](http://tinyurl.com/qjpqeag)



## 20 Year Walk

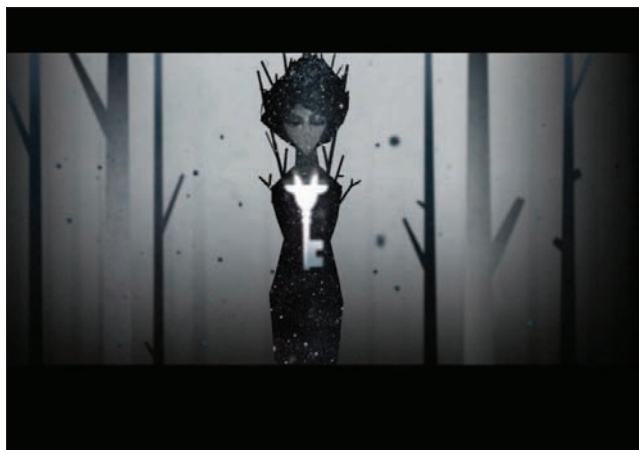
**Developer:** Simogo, simogo.com

**iOS App Store:** [tinyurl.com/qfj8j3e](http://tinyurl.com/qfj8j3e)

**Price:** £2.49

Like Super Hexagon, Year Walk isn't for everyone, but in a very different sense. Oblique and mysterious, explaining little yet burrowing sinistinely in the subconscious before you've got even the faintest sense of what's going on, this is a game you'll need to sit down and allow yourself to spend time with. Broadly speaking, it's a point-and-click adventure game, wherein you solve puzzles in order to progress to new areas, but it's also about exploring a strange and unsettling place, and finding yourself part of an abstract, pitch-black story. So abstract that you'll probably need the free Companion app in order to understand what's going on. Despite all that, Year Walk keeps itself impressively simple and minimal in terms of controls, it's the work of a keen, clear and uncompromising mind.

**Read more at** [tinyurl.com/omt7gcq](http://tinyurl.com/omt7gcq)







# MEET THE iPhone 5s AND iPhone 5c

EVERYTHING YOU NEED TO KNOW ABOUT APPLE'S TWO NEW IPHONES

By Karen Haslam

**A**pple unveiled not one, but two brand-spanking new iPhones at an event on 10 September – the 5s and the 5c. At the time of writing, the 5c was available to pre-order, while Apple was due to start taking pre-orders for the 5s on 20 September. The 5c is available in five bright colours, with a rigid, unibody, polycarbonate shell. Its innards are nearly identical to the iPhone 5's, though, its battery is slightly larger and it supports more LTE bands. The 5s looks similar to the iPhone 5, with an aluminium body that's available in three colours. However, it has a faster A7 processor with 64-bit support, a new M7 'motion coprocessor' chip, a significantly improved camera, and the Touch ID fingerprint sensor in the Home button.

If you're wondering whether it's worth upgrading and which phone to choose, here are our answers to some of the most pressing questions about the new smartphones, based on what Apple has told us and our own investigations.

# iPhone 5s or 5c: what's the difference?

In a nutshell, this boils down to colour choices, processor, price and options. We'll go into more detail about these features in the following pages.

**When can I buy a new iPhone?** At the time of writing, the 5c was available to pre-order, while Apple was due to start taking 5s pre-orders on 20 September.

## How much do the new iPhones cost?

In the run-up to the announcement, rumours suggested the 5c would be a cheaper iPhone, but in reality the price difference is minimal. A 16GB 5c will set you back £469, but if you're willing to pay £80 more, you can get a 16GB 5s for £549. If you want the 32GB 5c, then the price is £549. The 32GB 5s is priced £629, while the 64GB option is £709.

If you want to pay your cash upfront, you'll be able to grab an unlocked iPhone 5c or 5s from Apple's online store, from its physical outlets and from retailers such as Carphone Warehouse. Those who have an existing contract they don't want to lose, or who prefer the pay-as-you go model, may want to go down this route.

Buying an iPhone 5c with a mobile contract is more complicated due to the huge number of tariffs and networks on offer, though, you may be able to pick one up for free. We outline the different tariff deals we had confirmation of at the time of writing on page 19.

**What are the colour options?** The most striking difference to previous iPhones is the colour. These models mark the first time Apple's handsets have been

available in anything other than black and white.

The 5c is available in five bright and vibrant colours: pink, yellow, blue, green or white. According to a Macworld poll, the most popular option for the 5c is likely to be blue (43 percent of the vote).

The 5s looks a little more like the iPhone 5, but there's a new colour option, gold, along with silver and grey (or Space Gray as Apple is calling it). The silver is comparable to last year's White & Silver option, while the Space Gray reminds us of the 5's Black & Slate option.

We were dubious about the gold 5s when the rumours of the colour emerged, and while we're still not completely convinced by it, it's definitely not as 'blingy' as you might imagine. The poll mentioned above suggested that black would be the most popular colour for the iPhone 5s.

Eight new colours are available across the iPhone ranges, suggesting there will be something for everyone. This makes a change from most smartphones, which are predominantly black or grey.

## What are the dimensions of the new iPhones?

Both the iPhone 5s and the 5c have a 4in Retina display. However, the dimensions and weight of the two devices are slightly different.



The 5c measures 124.4x59.2mm, and is 8.97mm deep. It weighs 132g. The 5s measures 123.8x58.6mm, and is 7.6mm deep. It weighs 112g.

## Will the new iPhones work with 4G?

Both models support 13 LTE 4G bands, which according to Apple, is more than any other smartphone currently available. However, initially there was some concern when the information page on Apple's website suggested that only EE and Vodafone would be able to provide 4G.

We asked the different networks to elaborate and we've had confirmation from all the UK networks that they will be offering the 5c and 5s on their 4G networks. Both handsets will run on the following bands, in the following MHz according to Apple's notes: 1 (2100MHz); 2 (1900MHz); 3 (1800MHz); 5 (850MHz); 7 (2600MHz); 8 (900MHz); 20 (800 DD).

**Eight new colours are available across the iPhone ranges. This makes a change from most smartphones, which are predominantly black or grey**

# Everything you need to know about the iPhone 5s

Apple is calling the 5s its most “forward-thinking” phone. Though its aluminium body is almost the same as the iPhone 5’s, there’s a bunch of new hardware inside. Most impressive is the new A7 processor, which Apple touts as the first 64-bit processor available in a smartphone. The 5s also includes a new M7 ‘motion coprocessor’; some big camera upgrades and capabilities; and the Touch ID fingerprint-authentication system. (More on these below.)

Other improvements over the iPhone 5 include a slightly larger battery, expanded carrier support, and new colour choices.

## The new A7 processor

The A7 chip inside the iPhone 5s is unquestionably the most powerful chip Apple has ever put in a mobile device. It’s also the first smartphone to use a 64-bit architecture – usually found only on laptops and desktop computers. The implications of this might not be immediately apparent, because apps have to be written to take advantage of it. But down the road, the new processor will offer some exciting possibilities for expansion and power.

The A7’s support for the latest OpenGL ES 3.0 standard means better graphics performance, too. In fact, Apple claims that it’s twice as fast at both processor-intensive and graphics-intensive tasks as its predecessor.

## The M7 coprocessor

The iPhone 5s also includes a separate processor, called the M7, that handles



sensor data. The M7 – which Apple calls the motion coprocessor – is a brand-new chip that complements the A7 by handling data from the device’s many sensors, including the accelerometer and compass.

Why a separate processor for all that? The key to the M7 is that it can log data from those sources without waking the full A7 processor. This means that not only can fitness-tracking apps run more easily in the background, but they’ll also



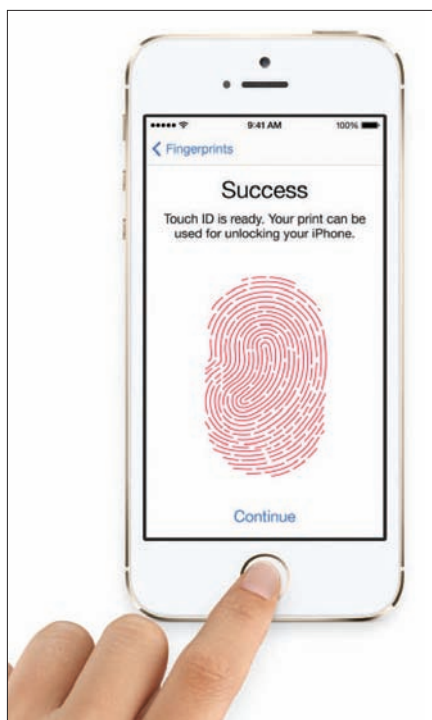
use up less of your precious battery power. And using the new CoreMotion API, third-party apps can use real-time location and motion information – like, say, whether you’re walking or riding in a car – to determine how the app behaves, without dramatically affecting battery life. There’s an implication here for wearable technology and the rumoured iWatch.

## The camera

If Apple’s specs and feature list are any indication, the 8-megapixel camera in the 5s should offer noticeably better performance, along with some useful new capabilities. For starters, the 5s uses a new, five-element lens that

**When you take the photo, the 5s actually takes multiple images, analyses them in real-time and then shows you what it thinks is the best one**





Apple designed specifically for the new iPhone. This offers an f/2.2 aperture, a 15-percent-larger area than the 5's lens, and 1.5-micron pixels.

The device also includes a new dual-LED True Tone flash that Apple says is the first of its kind on a phone or a standalone camera. One flash is cooler white, while the other is amber with a warmer colour temperature. The handset monitors ambient light and then fires the two flashes together to match that light. Together, Apple says, the two flashes provide more than 1000 unique light combinations, for flash lighting that's brighter and more natural.

But iOS 7 also includes a bunch of software specifically designed to take advantage of the improved camera hardware. For example, before you take a photo, the phone automatically adjusts the white-balance and exposure to create a tone map for better highlights and shadows; it also performs auto-focus

**Fingerprint control** The Touch ID sensor on the 5s will help stop unwanted access.

matrix metering for improved sharpness. When you take the photo, the phone actually takes multiple images, analyses them in real-time, and then shows you what it thinks is the best one.

The 5s also includes image stabilisation in software. In situations such as low lighting where you'd normally end up with blurry images, the phone takes multiple photos with a single shutter press, and then blends them together into a single, sharp image. And a new burst mode captures 10 full-resolution frames per second for as long as you hold down the shutter button. But unlike most burst modes, on an iPhone 5s, the phone automatically filters out bad shots to show you only the 'best' ones. (You can choose others manually, if you like.)

When taking video, you can capture 720p video at 120 frames per second, slowing it down later for true slow-motion video. (You can do the editing in your favourite video app, or you can choose, right in the Photos app, which section of the clip to view in slo-mo.) And Panorama mode now allows you to adjust exposure as you pan.

### Touch ID fingerprint sensor

This is a capacitance-based (as opposed to optical) scanner that's built into the Home button. The 'capacitance' part means that instead of taking a visual scan of your finger or thumb, the scanner detects minute differences in electrical charge caused by a fingerprint's whorls, loops and curves.

The phone then produces a digital template (again, not an image) based on that scan. In other similar systems, software then runs such a template through a cryptographic hashing process, making it virtually impossible to recreate the original print from the template. If that's how Touch ID works, the hashing process should make it harder – if not impossible – to spoof your prints. For further security, your fingerprint is

never stored in the cloud or anywhere in the phone's memory – only in a secure area of the A7 chip itself. We don't yet know all the details about how iOS 7 will use the fingerprints it detects. But we do know that it will let you bypass the lockscreen passcode. It will also let you authenticate a purchase on the App Store using your finger.

### Battery life

Apple claims that the 5s offers battery life equal to or greater than that of the iPhone 5. Specifically, the company says the 5s offers 10 hours of 3G talk time, 10 hours of LTE or Wi-Fi browsing, or 250 hours of standby time. Compare that to Apple's claims for the iPhone 5 when that model was released: eight hours of 3G talk time, 10 hours of Wi-Fi browsing, or 225 hours of standby time.

According to Apple, the 5c's battery life is identical to that of the 5s. We'll, of course, thoroughly test each model's battery life in the coming weeks.

### Storage options

The 5s is available in 16GB, 32GB and 64GB versions. There had been some expectation that Apple might offer a 128GB version of the iPhone, but this wasn't the case.

For many the extra storage offered by the 5s will be the deal breaker. However, with iCloud, and the potential offered by external storage devices, you may not need as much storage as you think.

### Pricing

Off contract pricing for the 16GB 5s is £549, while a 32GB model will set you back £629 and the 64GB option costs £709. Obviously, you'll need to factor in the monthly outlay of whatever contract or pay-as-you-go deal you opt for.

See our table on page 19 for further information. We'll be adding more contract details to this article on [Macworld.co.uk: tinyurl.com/ptcrv](http://Macworld.co.uk: tinyurl.com/ptcrv).

**Picture this** The 5s' camera has some useful new features.



# Everything you need to know about the iPhone 5c

There had been so many leaks in the run-up to the Apple 10 September event that there were very few surprises. In reaction, when Apple announced the iPhone 5c, CEO Tim Cook joked: “A couple of you may have been expecting this”. What wasn’t anticipated was the fact that this isn’t a ‘cheap’ iPhone, as many of the rumours suggested, but a mid-range handset.

## Design

There had been an expectation that the 5c would be Apple’s low-cost iPhone offering. While its price suggests otherwise, the device is made from cheaper materials and has similar specs to the iPhone 5, so it gives every indication that this isn’t a high-end model. Although, having said that, despite being plastic, it feels like a premium phone.

The 5c is constructed from a polycarbonate shell, crafted from a single piece of plastic. This body is wrapped around a reinforced steel frame. The polycarbonate surface has the advantage of feeling quite ‘grippy’.

There are five colours to choose from: pink, yellow, blue, green and white. They are bright and vibrant, and we expect they will appeal to a younger audience.

## iPhone 5 in disguise

Aside from criticism that the price of the 5c is too high, it has also been condemned for being an iPhone 5 repackaged in cheaper materials.

The fact that the 5c shares many features with the 5 lends weight to this argument. However, it’s not necessarily a bad move on Apple’s part to rebadge the 5 in this way. It’s been the company’s habit for the past few years to knock down the price of the previous model when it introduces a new one. Until



recently, you could buy the iPhone 5, 4s and the 4 from Apple. With the two-year old-model being its low-cost, or even free, option. This way new customers don’t feel that they are settling for last year’s phone.

## Specifications

Like the iPhone 5, the 5c features an A6 chip on the inside. Also, like its predecessor, the 5c offers an 8-megapixel camera. This is inferior to the camera in the 5s, which offers an f/2.2 aperture, among other features. There have, however, been a few tweaks to the camera. For example, the new FaceTime HD camera will perform “better in low light”, according to Apple. Another new feature is the ability to take a still picture when shooting video.

The 5c has a slightly larger battery than the iPhone 5. It offers 10 hours of talk time on 3G networks, up to 10

hours of web browsing on Wi-Fi and LTE networks and up to 8 hours on 3G networks, and up to 10 hours of video playback and up to 40 hours of audio playback. This is the same battery life as that claimed for the iPhone 5s. Two versions are available: 16GB and 32GB.

## Pricing

Off contract pricing for the 16GB iPhone 5c is £469, while the 32GB model will set you back £549. You’ll need to factor in the monthly outlay of whatever contract or pay-as-you-go deal you opt for.

Buying an 5c with a mobile contract will reduce the initial outlay. In some cases networks are giving the phone away for free. We’ve received the contract prices from the major UK networks (see our table on page 19). We’ll be adding more contract details to this article at [tinyurl.com/q68kswv](http://tinyurl.com/q68kswv).

# Why didn't Apple launch a cheaper iPhone?

There's been a year's worth of debate over whether Apple should launch a low-cost iPhone. When the world realised Apple had launched the 5c everyone thought the company had launched a low-cost model. As we mentioned earlier this wasn't the case.

## Who wanted a cheaper iPhone?

Calls for Apple to start selling a cheaper iPhone came initially from analysts and investors, who indicated that with the smartphone market reaching saturation point in the West, Apple would have to start targeting emerging markets such as China where there's a huge untapped market of consumers who can't wait to get their hands on the iPhone, but can't afford it. For example, the entry-level iPhone 5 was priced at 5,288 yuan (£532). That's equal to about six weeks' pay for the average urban worker, according to data from the National Bureau of Statistics. The average monthly pay in China is about 3,585 yuan (£360).

It's not just the Chinese, Indian and other emerging markets that have a large number of people who want to purchase an iPhone but are put off by the price. There are plenty of potential customers in the UK who can't afford the initial outlay for the iPhone. People are still swayed by low-cost devices.

## What about the iPhone 4s?

It's been argued that – as it always has – Apple is already offering a cheaper iPhone option. The company's usual practice when it debuts a new handset is to continue selling old iPhone models at a lower price, and this time round is no different. Apple is offering the 4s as its entry-level phone.

As a rule the company continues to sell the previous year's low-end iPhone

and cuts its price. The only difference this year is that Apple is keeping on the two-year-old iPhone 4s, and retiring the 5, probably because its specifications are so similar to the 5c's.

Apple's new strategy is to package up last year's model, the iPhone 5, as a new phone with a completely new look.

## Is Apple's 5c too expensive?

Is the price of the iPhone 5c right? It depends who Apple is pitching it at. Perhaps it never intended it to be a low-cost product; rather it may have designed it for the mid-range market.

While some were calling for it to make a cheaper iPhone, others – including Apple – were suggesting it would be wrong to pitch its phone at the very cheap end of the market as that would be damaging for the brand.

Another concern voiced amidst rumours that Apple would make a cheaper iPhone was the suggestion that selling a lower-priced handset would mean profit margins would be smaller.

The company's profits have fallen for two consecutive quarters, and one reason for the declining profits is the fact that consumers were opting for the iPad

mini over the regular model and the older iPhone 4s rather than the new products.

However, it's not only through sales of the iPhone handset that Apple makes profits. There is another way it can make money from the phone – namely the software and services that the company sells to the iPhone owner.

If Apple can continue to grow the market share with the iPhone it could continue to grow revenue from sales from iTunes and the App Store, and from everyone that makes a device for the iPhone (the company takes a cut from anything that has the Made for iPhone logo on the packaging).

Selling a cheaper handset could have meant that Apple could sell more phones, more content on the App Store, as well as more accessories.

## C is not for cost, it's colour

Apple's never been about market share, though, and making cheap devices is not in its DNA. The 'c' in iPhone 5c never stood for cheap, the c stands for colour, and that's more like Apple. If the iPhone 5c can become a style icon like the iPods did before it, then it may win some of that market share anyway.

## iPhone – 4G plans

Network	iPhone	3G/4G	Upfront	Monthly	Data	Total
O2	16GB iPhone 5c	4G	£99.99	£49.99/24 months	5GB	£1,131.75
Vodafone	16GB iPhone 5c	4G	£19	£42/24 months	6GB	£1,027
EE	16GB iPhone 5c	4G	£189.99	£26/24 months	500MB	£813.99
O2	16GB iPhone 5s	4G	£119.99	£47/24 months	5GB	£1,247.99



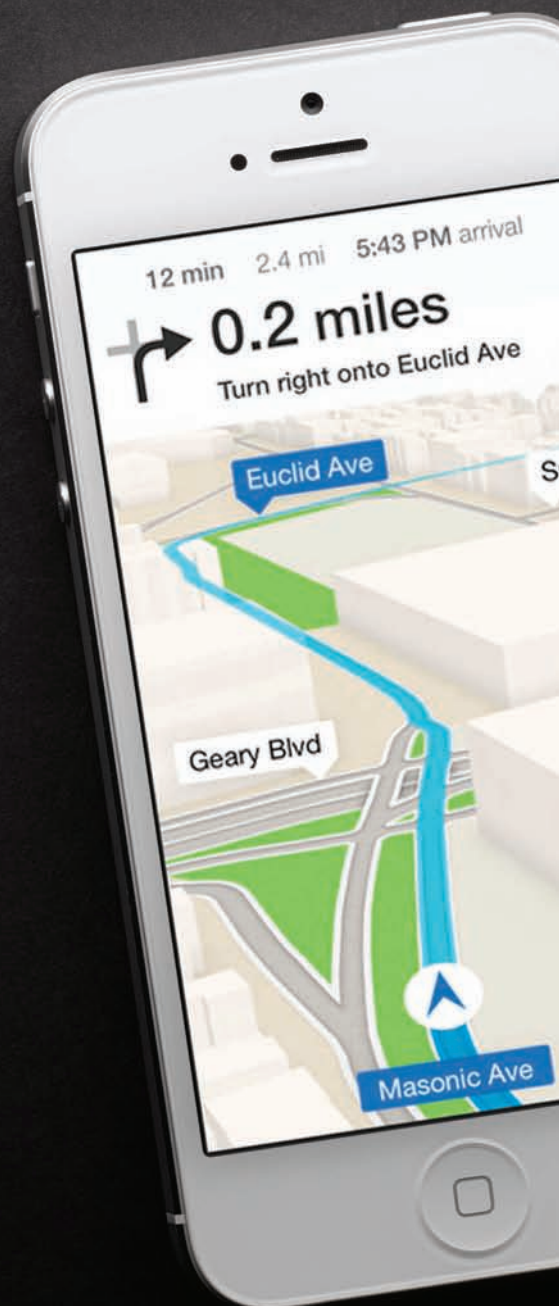
# HERE COMES iOS 7



OUR FIRST LOOK  
AT APPLE'S  
NEXT-GENERATION  
MOBILE OS

PHOTOGRAPHS BY PETER BELANGER





When Apple CEO Tim Cook first took the wraps off iOS 7 at June's Worldwide Developers Conference, he called it the most significant overhaul of Apple's mobile operating system since the company got into the smartphone business back in 2007. iOS 7 is a dramatic reinvention of the mobile software that goes beyond mere additions and enhancements. Apple is changing the very look of iOS itself.

With iOS 7 about to be released, we've taken the opportunity to examine pre-release versions and to ask Apple some questions. Here, then, is what we know so far – and what you have to look forward to.

# iOS 7: FAQ

Something as different as iOS 7 is sure to raise questions. The following is an overview based on what we've seen and heard from Apple to date

## THE BASICS

**What's the biggest change with iOS 7?** The entire look and feel has seen an overhaul, with flatter icons, less skeuomorphism and thinner typefaces. That said, anybody who has used iOS will probably feel at home: Apple hasn't changed the home screen much, and the basic gestures and interactions are mostly the same.

**How is the new look different from the old look?** How did you feel about green felt, wooden bookshelves and stitched leather? They're all gone in iOS 7. In their place is a cleaner design that's largely about simple lines and icons.

While iOS 7 has some elements that are reminiscent of Microsoft's Windows Phone design, it has its own distinct style. These aren't just subtle enhancements, either – they permeate every bit of the interface.

iOS 7 also takes design cues from your content, tinting the controls and panels with colours from the photos behind them. Apple's Jony Ive spoke at WWDC about layering the interface, with

panels such as Notification Center and Control Center visually residing on top of apps and the home screen.

**Will I have to relearn how to use my phone?** Launching and using apps is more or less the same, but you have a few new things to learn. For instance, you'll be able to swipe up from the bottom of the screen to summon Control Center (a panel for commonly used system features). A new swipe-from-the-left-edge gesture sends you to the previous screen.

However, as Apple's Craig Federighi described it at the unveiling, the feeling is a bit like getting a new phone that you already know how to use.

**When will iOS 7 be available?** Apple says it will arrive in the autumn, which has become something of a standard for iOS releases. The current iOS 6 debuted last September; iOS 5 came out in October 2011. (Before that, both iOS and the phones it powered were on a summer release schedule.)

As we went to press, rumours were circulating that we would see iOS 7



**Easy multitasking** The interface for switching among open apps now displays thumbnail images along with icons.

announced along with a new iPhone on 10 September.

When iOS 7 becomes available, you should be able to upgrade the same way you could with iOS 6: either by downloading the new OS via iTunes or by taking advantage of iOS' over-the-air updating capabilities to pluck the new version out of the ether.

**What devices will support iOS 7?** You'll need an iPhone 4 or later, an iPad 2 or later, an iPad mini or a fifth-generation

iPod touch. (Or, of course, whatever new mobile hardware Apple may release between now and iOS 7's official launch.)

Specific features have more stringent device requirements:

- > Panoramic photos are available only on the iPhone 4S or later and the fifth-gen iPod touch.

- > You can't shoot square stills or video on the iPad 2.

- > For the new live camera filters, you'll need an iPhone 5 or a fifth-gen iPod touch.



Adding filters in the Photos app is an option for the iPhone 4 or later, the third-generation iPad or later, the iPad mini and the fifth-gen iPod touch.

> To AirDrop a file to friends, you need an iPhone 5 or later, a fourth-generation iPad or later, an iPad mini or a fifth-gen iPod touch. You also need an iCloud account.

> Siri remains limited to the iPhone 4S or later, the third-gen iPad or later, the iPad mini and the fifth-gen iPod touch. It also may not be available for your country. And if you desire a new Siri voice, keep in mind that initially it will be available only in English, French and German.

## THE SYSTEM

### Did Notification Center change?

Although you still summon Notification Center by swiping down from the top of the screen, it has a new translucent appearance and it offers different information. In addition to storing your notifications it has a tab on which you can view only your missed notifications, as well as a new Today view.

The latter feature acts much like Google Now, giving you a daily overview that includes the weather, calendar appointments, stock quotes and a paragraph about what's in store tomorrow.

### What's up with multitasking in iOS 7?

You can still switch apps by double-pressing the Home button, but the switching interface has changed: it now resembles the old interface for switching pages in Safari on iOS 6 and earlier, in which you see a thumbnail of the page. A row of app icons appears below,

and you can swipe back and forth to find the app you need. Force-quitting apps is a bit different – rather than tapping and holding the icon, you flick up a thumbnail to dismiss it.

More significant differences are found behind the scenes. Starting in iOS 4, only certain tasks could run in the background. iOS 7 finally brings full multitasking, so any app can run in the background and provide you with up-to-the-minute information.

### If any app can run in the background, what about battery life?

Apple has spent a lot of time making sure battery life won't suffer from the new multitasking. The feature tries to collect updates from different apps and run them all at the same time, and keeps an eye on both power efficiency and the current network situation to ensure that the activity doesn't run down your battery.

**Anything else?** If you've ever grumbled while navigating

three levels deep into Settings to turn off Bluetooth, you'll love Control Center. This new panel, which you can summon anywhere in iOS by swiping up from the bottom of the screen, gives you easy access to common settings, including Airplane Mode, Wi-Fi, Bluetooth, Do Not Disturb, Orientation Lock, Brightness, AirDrop and AirPlay.

You'll also find media-playback controls, and icons for frequently used apps and utilities: you can turn on the camera flash to use it as a torch, or open the Clock, Calculator or Camera apps.

## THE APPS

### What's new with the Camera app?

The significantly overhauled Camera app offers four modes: standard, square, panorama, and video camera. You can swipe back and forth between them. If you think the square camera might be Apple's way of taking a shot at Instagram, you're spot-on.

The app also now includes live photo filters that you can apply to your still or square shots. These filters are non-destructive, in case you want to remove them later.

### What are Moments and Collections?

Made for those people who end up with thousands of pictures in their Camera Rolls, Moments and Collections offer a better way to organise photos. Just as iPhoto on the Mac can sort pictures into events, Photos on iOS can use metadata such as time and location to create different Moments – all the pictures you took on a weekend trip to the country, for example.

Collections are larger groupings of Moments, often all the photos you took in a general area (say, around your house) over several months. You can zoom out further to a Years view.

**So iOS 7 has AirDrop?** Yes, it does. AirDrop in iOS 7 lets you exchange files such as photos, Passbook passes and contacts between two iOS devices over Wi-Fi or Bluetooth. This requires no configuration and, as Federighi pointed out, no "bumping" phones.

AirDrop appears in the Share sheet, along with conventional items such as Mail and Messages; you can even use it to simultaneously share multiple items with multiple people.

Files end up in the appropriate app, and are encrypted in transit. You can change the permissions to determine whether everybody can share with you, or only certain people nearby (or people in your contacts).

What we don't know is whether iDevices will be able to AirDrop files with Macs.

### What's new with Safari?

Apple's web browser has some new tricks up its sleeve. The search and URL fields have merged into one that now suggests URLs, bookmarks and search results as you type. In addition, your favourites are readily available from that screen, giving you one-touch access to bookmarked sites. Plus Safari's minimalist interface vanishes into the background as you scroll down the page, giving you even more space in which to view content.



**Photo fun** iOS 7's Camera app comes with a set of filters.

A new tabbed interface lets you scroll more quickly through open pages (and continue scrolling down to iCloud Tabs); you'll also notice the same continuous-scrolling Reading List and Shared Links features that will appear in OS X Mavericks. iCloud Keychain, a new feature that syncs your passwords between your devices and even helps you generate new passwords, should work seamlessly with Safari.

## What about iTunes

**Radio?** You can create stations based on a song, artist or genre, and rate songs as you go along. This helps you to either hear more like a given track, or never hear anything like it again. You can control the balance of your stations, determining whether they're hit-heavy, whether they favour new-music discovery, or whether they're a mix of the two. The history tab gives you a full list of all the songs you've heard, a convenient feature if you can't remember the name of that one track that had you grooving along.

Apple's streaming service offers the additional benefit of being tied to the rest of the iTunes ecosystem, meaning that you can easily purchase songs from the iTunes Store within iTunes Radio. However, for now iTunes Radio is available in the US only.

## Is iTunes Radio the only change in the Music app?

Most of the other changes seem to be cosmetic, reflecting the new design aesthetic of iOS 7. Despite the extensive reinvention of iTunes on the Mac that Apple performed last year, not much

crossover to iOS is happening – or, if it is coming, Apple hasn't revealed it yet. In particular, we've seen no indication that iTunes 11's Up Next feature has jumped to Apple's mobile platform.

## THE REST

### Is Siri finally out of beta in iOS 7? We don't know.

Apple's virtual assistant didn't get much screen time in the WWDC keynote, and what time it did have in the spotlight was relegated to a discussion of its new integration features, such as in-Siri results for Bing search, Twitter and Wikipedia, as well as new control features for things such as iTunes Radio.

Siri also boasts some new high-quality voices (for US English only at the moment, but coming soon for other languages) and a fancy revamped interface. Siri doesn't yet have the live-transcription feature that Google recently showed off for its voice search.

**How does Activation Lock make my iPhone more secure?** Thanks to Activation Lock, a thief who attempts to disable the Find My iPhone feature or to wipe the phone won't be able to do so without entering your Apple ID and password. While dedicated hackers may still be able to find a way around it, hopes

are high that Activation Lock poses enough of a deterrent that thieves will think twice before stealing iPhones to sell.

## When will iOS in the Car be available? For what cars?

At the moment, Apple says a dozen car manufacturers, including Acura, Chevrolet, Ferrari, Honda, Hyundai, Infiniti, Jaguar, Kia, Mercedes, Nissan, Vauxhall and Volvo, have signed up to provide support for the iOS in the Car initiative. This will allow a driver to work with the screen in the car to use iOS features such as navigation, phone and entertainment functions.

## Are these the only changes in iOS 7? Hardly.

Federighi previewed just 10 new features at WWDC, but one of the last slides shown at the sneak peek hinted at many more changes – everything from system improvements to developer APIs.

See *The little things* on page 28 for a look at some of the iOS 7 features Apple didn't discuss at its keynote; it's a worthwhile read if you'd like greater depth on what the company has planned.

**What's still missing?** We can think of a few things that we were hoping iOS 7 would offer that it doesn't yet. For example, the Maps app lacks native transit directions; Siri is missing live-transcription functions; home-screen organisation seems unchanged; you can't set a third-party app as the default web browser or mail client; iTunes has no Up Next feature; and much more. But hey, that just means there's room for improvement.



**Moments and Collections**

The revised Photos app can now group images according to their time and location.

# THE APPS THAT iOS 7 COULD KILL

BY LEAH YAMSHON

Users have a lot to be excited about in iOS 7. In addition to system-wide changes, several of the stock Apple apps are being revamped, gaining features and deeper integration with the Apple ecosystem.

But the debut of a richer mobile platform wasn't music to everyone's ears: As details of iOS 7 have unfolded, the only thing some third-party app developers could hear was a sad trombone. Here are some of the apps that could be made redundant when iOS 7 arrives.

## STREAMING RADIO APPS

iTunes Radio is Apple's first foray into a streaming music service for

iOS. Users can listen to stations inspired by a track, artist or genre, and can specify songs they like and songs they despise. Apple has also created 200 featured stations, including 'Songs Trending on Twitter' and 'Artists on Tour.'

In the US Pandora ([pandora.com](http://pandora.com)) is a popular service that does all the above. Spotify ([spotify.com](http://spotify.com)) is a similar service with which UK users may be familiar.

iTunes Radio won't kill off Pandora or Spotify, but it will offer enticing perks to people who already use iTunes. It will be available on mobile devices, desktops and the Apple TV. It will be built into the iOS 7 Music app and into a future version of iTunes. Every streamed song will include a purchase link, making it easy to add a track to your iTunes account. Plus, it'll be free, and Apple has made no mention of a streaming cap.

iTunes Radio includes audio ads unless you are an iTunes Match subscriber.

## FLASHLIGHT APPS

iOS 7 will have a new flashlight app that makes use of the iPhone's camera flash. An App Store search for "flashlight" yields 1,273 results; that's 1,273 apps that

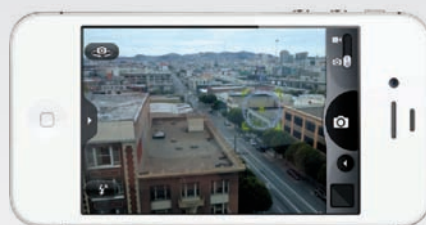
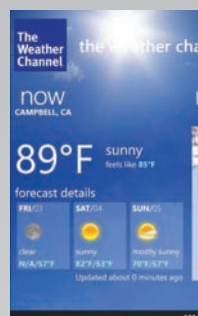
perform the same basic function as something that will soon become standard in iOS. Most of those apps are free, but some offerings cost from 69p to £1.49. Your days are numbered, Flashlight, Flashlight! and Flashlight+.

## WEATHER APPS

Apple's existing Weather app does its job without much pizzazz. Its city profiles and weather information are somewhat lacklustre, with the daily or hourly forecast giving only basic temperatures and conditions. Competing apps, such as Forecast.io and the Weather Channel app, have long overshadowed it, presenting neat animations, extra details (such as wind speed and humidity levels), and a more enticing design overall.

That will change with iOS 7, because Apple's Weather is getting a face-lift. Details will appear over a large, sometimes animated graphic of the current conditions. Users can still save city profiles, which display as stacked tiles with an overview of the conditions in each city. The new design looks sleek and elegant, with more detailed information.

One rival that is sure to suffer is Yahoo Weather. Apple still pulls weather data from Yahoo, and the redesigned Apple Weather looks oddly similar to Yahoo Weather. Regardless, although it still isn't as thorough as other weather offerings, Apple's app should provide better weather information than before.

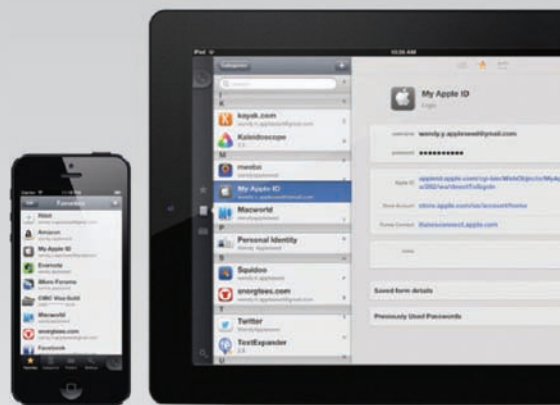


## PHOTO FILTERS

While Instagram remains the undisputed king of filters, the App Store still has plenty of apps that provide retro photo effects. Such apps are most attractive to users who want to have fun with filters, but don't want to play by Facebook's rules and iffy privacy standards.

With iOS 7, however, Apple's Camera will have a pack of built-in filters. You can choose a filter before or after you take a photo; if you don't like the outcome, you can remove the filter or try a different one. iOS 7's Camera even includes a square shooting format, which eliminates the need to crop a photo in Instagram if you want to share it there later.

The new Camera will have only nine filters to start, but they will work with Camera's other settings and shooting styles. Photo enthusiasts will want to hold on to professional photo apps, such as Camera+ or Camera Awesome, which include a bevy of settings and shooting modes. Casual photographers, however, will likely find Apple's Camera to be a joy to use. Lesser-known filter apps, such as Camera Bag, PhotoToaster, and Pixlr-omatic, face tough times ahead.



## PASSWORD MANAGERS

iCloud Keychain, coming in OS X Mavericks, will remember website logins, credit-card information (but not your security code) and Wi-Fi logins, and will integrate with Safari on your Mac. Safari will remember your password, or suggest a new password, and sync it to your unique Keychain. iCloud Keychain will then sync all this information across your devices – including those running iOS – and keep it encrypted and secure.

Until now, Mac users concerned about security have had to rely on third-party password managers such as 1Password, but soon we'll have an alternative that doesn't cost anything extra. (1Password, in contrast, costs £34 for one Mac licence and £12 for iOS.) Although third-party password tools work with multiple browsers and offer different ways to make secure passwords, many users will find that iCloud Keychain suits them just fine.



FIRST IMPRESSIONS

# Hands-On With iOS 7

Right now we have four sources of information about iOS 7: what Apple said about it at the WWDC keynote in June, what Apple's iOS 7 website ([apple.com/ios/ios7](http://apple.com/ios/ios7)) says, what we've gleaned from conversations with Apple executives, and what we've seen of the pre-release operating system itself



**Stay in control** iOS 7's new Control Center places frequently used system features and apps at your fingertips.

The preview of iOS 7 we saw was released under Apple's confidentiality agreement with developers, so we can't talk too specifically about what it contains. But while hanging around with developers, we couldn't help but take an occasional glance at phones running the new iOS, to see where it's headed.

As we write, iOS 7 is still just a beta, and it is possible that the OS will change a lot before it sees the light of day. In the meantime, here are some firsthand impressions.

## FADE TO BLACK

Locking and unlocking the iPhone comes with a fade-in/fade-out effect, which seems to be a combination of a fade

effect on the screen itself plus a change in screen brightness.

## SLIDE TO UNLOCK

The 'Slide to Unlock' message on the lock screen no longer sits next to a button with an arrow on it. It's just there, by itself, assuming that you'll know what to do with it. It's pretty, but it may be a bit too subtle; the upward-pointing arrow for Control Center below that slider has confused even veteran iOS users, causing us to swipe up even when we meant to swipe right.

## THE PARALLAX VIEW

The most mind-blowing moment of Apple's WWDC iOS 7 video was the parallax effect that appeared when the

user moved the phone: the home-screen icons stayed still while the background moved slightly. The effect in Apple's video was far more pronounced than that which is visible in the developer beta. Apple executives told us that the parallax effect is a work in progress, and that the company hasn't yet decided just how pronounced it will be.

## MANAGING MOBILE DATA USAGE

Currently iOS gives you little control over which apps may pull data via your mobile connection. But in this era of metered wireless data, such a lack of control can lead to unanticipated data usage and a huge phone bill. The iOS 7

beta suggests that you'll be able to bar mobile-data access for individual apps, and to see how much data each app has been using – a great addition.

## ANIMATION EVERYWHERE

iOS 7 is filled with animated effects. Tap an app to open it and the interface zooms toward the icon, and content flies forward to fill the screen. Press the home button and the view draws back from that icon to the home screen. Double-press the home button to enter the app switcher, and the current app zooms backward to join the lineup.

When you unlock the iPhone, the icons drop on to the home screen slightly out

of phase from one another. Even the red notification badges that appear on apps pop in with an animation.

## LIVING ICONS

The Calendar icon has long been able to show today's date, but the Clock icon has been stuck at 10:15 since the first iPhone OS. iOS 7's advances in battery life have at last brought the Clock app to life; just glance at its icon to read the time. Granted, you can still see the time in the toolbar, but the promise of interactive app icons is intriguing – even if Apple is unlikely to let third-party developers in on the action.

## BETTER CHARGING INDICATOR

In iOS 6, when your iPhone is recharging, the status bar's battery icon simply displays a lightning bolt, indicating that the device is plugged in; the lock screen has a large icon showing how charged is the battery. In iOS 7 the status bar's battery indicator remains visible, and the lightning bolt gently pulses next to it. At all times you can see how much more charging your battery needs. The OS also briefly displays a subtle percentage indicator in place of the date on the lock screen.

## MORE GESTURES

New gestures shown at WWDC included a right swipe to return to the previous screen, a flick up to activate Control Center, and an upward drag inside the multitasking screen to kill a misbehaving app. One other neat gesture: drag down from the middle of a home screen to drop down a search bar from the top of

the screen and bring up a keyboard from below.

## BACKGROUND MULTITASKING

We're looking forward to background processing for all apps, but we're wary of its impact on runtime and data usage. Fortunately, Apple has added the ability to choose which apps may update their data in the background. This feature works in addition to iOS 7's vaunted battery-life-saving measures, which should prioritise background processes based on which apps you use most frequently and when you use them. But the ability to flip the override switch is still appreciated.

## APP WAKE-UP

As a part of iOS 7's multitasking, apps can wake up via a silent push notification sent to your phone from the app developer. You don't see

the notification, but the app does; as a result it wakes up to do work while you're not using it. This feature can be a big deal, because it means that apps can promptly download new stuff. Later, when you open the apps, that stuff is immediately available.

If, say, Amazon updated its Kindle app to support the feature, it could remotely load your app with purchased books and new magazines so they're ready when you open the app. In iOS 6 only Newsstand apps can do this, but in iOS 7 the function is available to every app.

## FOLDERS

For those of us whose iPhones are filled with folders, the news that iOS 7's folders will support multiple pages is music to our ears. Finally, we'll no longer have to maintain a 'Games 2' folder to handle the overflow from our 'Games'

folder. We'll no longer have to drop utilities into a miscellaneous 'Web' folder because they can't fit into 'Utilities'. A great move.

## KEYCHAIN RESTORE

Restoring an iPhone works pretty well, but there's always the matter of re-entering your stored passwords. Although we appreciate the security of that arrangement, it can be frustrating when you can't recall some of the passwords.

iOS 7 has an answer: if you've enabled the new iCloud Keychain, you can have your stored passwords restored to your phone along with the rest of your data. Given that iCloud Keychain will suggest strong passwords, which you might not otherwise remember, this functionality is particularly convenient.

## PRIVACY, PLEASE

Private-browsing mode is a handy feature, but earlier versions of iOS squirreled it away within the Settings app. In iOS 7 it's far easier to find: when you open the tabs interface, just tap the Private button at the bottom left. No more digging three screens deep just to flip it on or off.

## WORK IN PROGRESS

iOS 7 represents a stunning change to the iOS infrastructure but, for those of you considering paying for a developer kit just to get a glimpse of the new interface, we'd suggest holding off. It's nice to peek at iOS 7, but a first beta is still just a first beta.

We've enjoyed what we've seen of iOS 7, but we'll enjoy it even more when it's finished, which is likely to be any day now. Hopefully on the 5S.

**Shifting views** iOS 7's layered interface separates panels, icons and backgrounds.



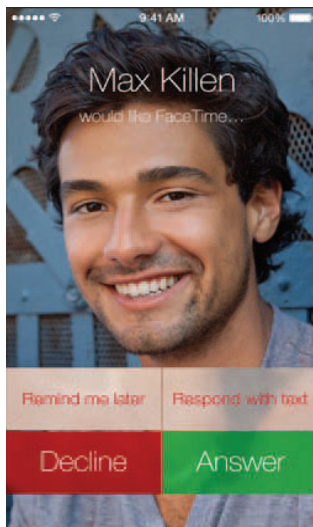


# iOS 7: The little things

Apple had a lot of ground to cover in its WWDC keynote address, which meant that the company didn't have a chance to publicly discuss all the new features hidden inside iOS 7. We did a little sleuthing, however, and turned up a bunch of cool stuff that the audience didn't hear about at the conference

## SYSTEM IMPROVEMENTS

System improvements aren't always the flashiest features, so they can get short shrift at keynote presentations. But they're often hidden gems.



### Audio-only FaceTime calls:

This little nugget got a few seconds during the WWDC keynote when Federighi briefly mentioned its virtues. Audio-only FaceTime calls will allow you to voice-chat with other people – no phone plan needed – but only over Wi-Fi.

Given the short time Apple spent on the topic during the presentation, it's uncertain whether audio-only calls might also make their way to the Mac via OS X Mavericks.

**Inclinometer:** Previous versions of iOS introduced software support for the gyroscope and accelerometer. Now iOS 7 looks as though it will get the latest in 3D space-tracking technology: an inclinometer.

An inclinometer measures the angle of slope/tilt with regards to gravity; as such, you may see more apps that incorporate awareness of up and down movements, rather than just side-to-side motion.

Our personal hope is that app developers will devise a method to use the inclinometer to track floors climbed, similar to how the Fitbit One ([fitbit.com](http://fitbit.com)) functions. Granted, the One employs a physical altimeter to accomplish stair-counting, but perhaps some enterprising developer will find a way to make the inclinometer work for fitness tracking.

### Improved notification sync and natural language:

Not only will iOS 7 sport 'dismiss once, dismiss everywhere' notification sync between your mobile devices and computers, but Notification Center will also produce a Siri- and Google Now-inspired Today pane that provides you

with an overview of your day's activities. Instead of displaying a ticker of your calendar activities, your iPhone will write up a nice paragraph letting you know what your day's activities might entail.

**Activation Lock:** Another feature that Federighi briefly touched on during the keynote, Activation Lock prevents would-be thieves from wiping your iPhone and selling it to the highest bidder (or using it themselves).

If you should lose your iPhone and have no choice but to remote-wipe it, the iPhone will stay in Lost Mode. Your lock-screen message will remain, and anyone who attempts to use the phone after a reset will be required to enter your iCloud details.

Weirdly, the 'Forgot your password?' prompt will still be available under this login screen, so it might be a good idea to enable two-factor authentication or to make your password hints more difficult to guess.

### Smarter, faster downloading:

Apple's WWDC slide of additional iOS 7 features touted both 'smart download of TV

episodes' and 'scan to acquire Passbook passes' as perks, but neither of those features had a concrete description.

If we had to venture a guess, we'd suspect that smart downloads will involve the iTunes app automatically downloading TV shows for which you have purchased a subscription as soon as they're posted to the store. Meanwhile, the scan to acquire function sounds as though Passbook might be getting a built-in QR-code scanner for acquiring passes; the 'barcode scanning' developer API listed during the June keynote would seem to confirm this idea.

**Wi-Fi HotSpot 2.0:** One of the more-technical items on iOS 7's additional features slide, Wi-Fi HotSpot 2.0 automatically seeks out and joins Wi-Fi subscriber services. In theory, this feature should provide you with faster internet access and fewer bandwidth constraints.

### File support and device visibility on AirDrop:

Apple's support for AirDrop on iOS 7 sounds pretty good: you can easily transfer photos to a nearby friend over a Wi-Fi or

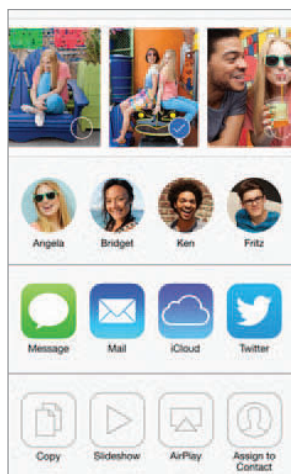




**Go for a stroll** The Maps app in iOS 7 offers a redesigned interface, as well as turn-by-turn walking directions.

Bluetooth connection – no wires, physical phone bumping or extraneous email messages necessary.

But did you know that AirDrop can support other file types as well? According



to Apple's site, the service will also support sending Passbook passes and contacts. Given the existence of a third-party API for AirDrop, we suspect you'll be able to transfer other files very soon.

By default, the service lets only your contacts see your device, but you can disable it altogether (or, alternatively, let everyone in the area see you).

## MAPS FEATURES

Apple Maps will boast a redesigned interface (and will be able to talk to its new OS X counterpart), but a few other features are coming to the app as well.

### Turn-by-turn walking

**directions:** If you like to walk, but aren't always familiar with your surroundings, Maps' new turn-by-turn directions for walkers should be a delight. (Yes, it'll keep you from having to pull out your phone every five minutes to check whether you were indeed supposed to take that right turn.)

### Night mode for

**Maps:** Some of us are constantly adjusting our phone's brightness when we use it as a nighttime navigator. As such, a night mode for Maps is a welcome idea. Although



Apple didn't demonstrate exactly how the mode might be implemented, a brightness slider or a black-and-white mode would be appreciated.

**Maps bookmark syncing:** iCloud has offered bookmark syncing with Safari since its inception, but iOS 7 marks the first time you'll get sync for your Maps bookmarks, as well. So if you add, say, your favourite sushi joint's address to your iPhone, it should show up on your Mac and iPad, too.

## COMMUNICATIONS

The iPhone is first and foremost a phone, of course, so communication updates in iOS 7 would seem to be a no-brainer. What tweaks can we expect?

**Smart Mailboxes and improved Mail search:** iOS has never had access to your Mac's Smart Mailboxes, but from the looks of the June keynote's additional-features slide, that may soon change. (Might it also indicate that

Smart Mailboxes will soon be synched as part of iCloud? We definitely hope so.)

'Improved mail search' is vague, but we would love it if that meant that you could select a 'Search All Folders' option when looking for a message; currently, no such option exists, and you must go to the folder in which you want to dig around and then perform your search.

**Long MMS support:** We haven't seen or heard much information about Long MMS, but our guess is that traditional SMS messages might have a longer character count before being sent as MMS messages.

**PDF annotations:** According to the additional-features slide shown at WWDC, you may be able to display annotations to your PDFs by default. In what application, though? iBooks is our best guess, as it is currently iOS's default PDF reader. This feature might also bring along PDF annotation tools, but we'll have to wait and see.

**Chat options:** According to Apple's website, the Contacts app will display the services that you can use to chat with your friends next to their contact cards. If you have a friend with an iMessage-enabled email address, for instance, you'll see icons for both iMessage and email displayed next to that address.

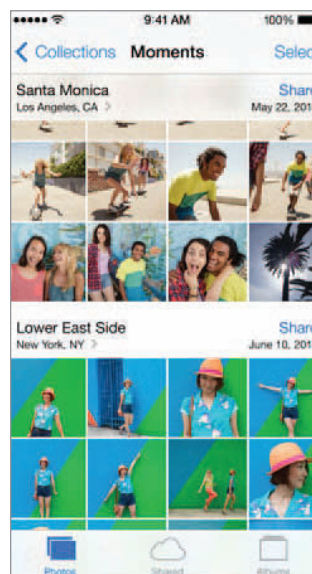
**Call blocking:** Someone is repeatedly calling or messaging you, but you would rather not talk to them. No problem: iOS 7 will provide

support for blocking those pesky email addresses and phone numbers.

**Do not track:** For some time Safari on OS X has had a 'Do Not Track' option, which prevents advertisers tracking you as you browse the web. In iOS 7 mobile Safari seems poised to gain the same feature.

## PHOTOS AND VIDEO IMPROVEMENTS

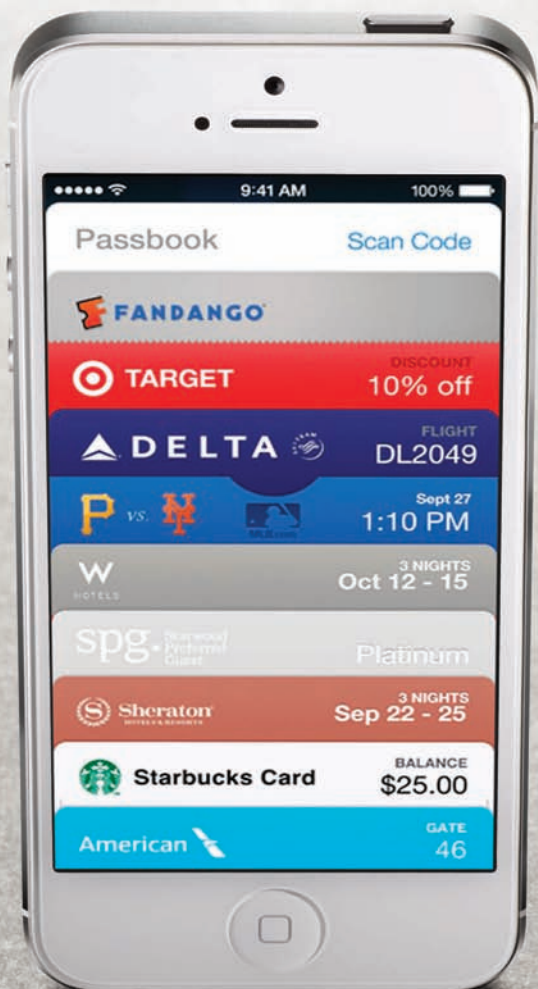
What's new in the Photos and Camera apps beyond what Apple previewed? Several cool features, actually.



### No more Faces and Places:

The era of face-tagging and photo-maps is over, at least for iOS. The Faces and Places tabs are no more on iOS, replaced with Moments and Collections. Both of the new features still seem to be focused on location, and Moments includes map data for individual places.

Unfortunately, for those users who loved tracking friendly faces, from the WWDC keynote it doesn't



**Scan to acquire** iOS 7 might introduce built-in QR-code scanning functions to Passbook.



sound as though Faces will have a prominent place in iOS for the future.

**True photo sharing:** The Shared Photo Streams feature has always been a little one-sided – you could send photos to your friends, and they could send photos to you, but you would each have to make a separate stream for the process. No longer: streams can now be collaborative rather than read-only, and they can contain video, too. We've been clamouring for such functionality since Shared Photo Streams' release last year, and we're glad to see it being implemented in iOS 7.

**60fps video:** If you love shooting high-framerate video, you'll adore Apple's revamped Camera app, which can purportedly capture video at 60fps. (Will it also have 24- and 30fps settings? We'll see.)

## SIRI'S NEW TRICKS

Siri has some new and improved voices in the US, Germany and France. It also has a new interface that hovers over the home screen rather than sliding down on top of it, and you can search Bing, Twitter and Wikipedia inline (good bye, Safari search). You can give it a bunch of new commands, too.

What kinds of commands? Ask Siri to play back your voicemail, return your calls, control your device's settings or change your music (or iTunes Radio), on top of any of the queries you're accustomed to asking of the assistant.

In addition, if you purchase a car in 2014 that incorporates Apple's new iOS in the Car features, Siri might take a page from Google Now's predictive-travel book. iOS will figure out where you might be heading, and get you traffic information and predicted journey times.

## INTERNATIONAL FEATURES

Like iOS 6 before it, iOS 7 will come equipped with a few nice region-specific features for international iOS users. The operating system will include new dictionaries for Italian, Korean and Dutch

speakers, as well as a Chinese-English bilingual dictionary; handwriting recognition for multiple Chinese characters; and support for the Chinese microblogging service Tencent Weibo.

## DEVELOPER APIS

Apple stated at the WWDC keynote that developers would gain access to over 1,500 new developer APIs in iOS 7. Given that most Macworld readers aren't especially interested in such details, however, here are just a few interesting ones we caught off the slide.

**iBeacons:** Apple's iBeacons, in technical speak, use the Bluetooth Low Energy profile for microlocation. In plain language, that means your iOS device may be able to use Bluetooth 4.0 devices to collect precise location data – such as your location inside a building – even though those devices don't have a GPS system installed. That said, we don't claim to be Bluetooth or microlocation scholars, and Apple's APIs are under the confidentiality agreement, so the actual implementation might be slightly different.

**Background downloading:** We heard mention of this feature during the keynote. It allows your apps to download information for you at certain times of day, even if they're not actively running. In practice, this approach might allow your Twitter feed to download and cache tweets for you to read before you hop on a train or plane, sans internet access.

**Third-party game controllers:** A few pseudo third-party controllers exist for iOS games, but it looks as though Apple plans to offer more-expansive support for anyone wishing to connect third-party controllers to their iOS devices.

## More Apple Maps in your third-party apps

**apps:** Some people would prefer that Apple's Maps stay far away from their third-party apps. But if you like Apple's implementation, you may see more of it in your other apps in the form of directions and 'map snapshots'.

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free cloud space?



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# UPGRADE YOUR APPS

The apps built into iOS aren't always the best choices

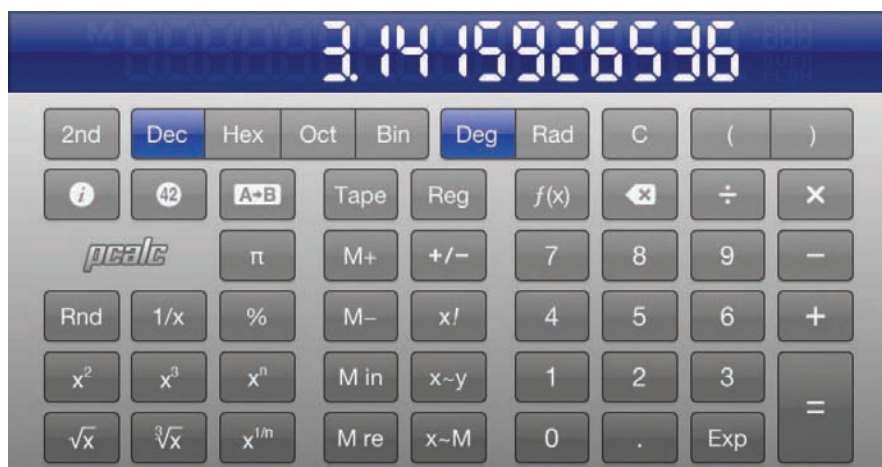
BY IPAD & IPHONE USER STAFF



PHOTOGRAPH BY PETER BELANGER

Apple's stock apps for the iPhone, iPad and iPod touch are great — mostly. But what if one of them doesn't quite fit your needs? With many thousands of third-party apps to choose from in the App Store, finding replacements for Reminders, Calendar and Notes can be an overwhelming task. Luckily, we have some suggestions. The excellent apps on the following pages will help you make the most of your iPhone or iPad.





**PCalc power** The iOS app is as feature-rich as is the Mac program.

PCalc provides quick access to commonly used scientific and mathematical constants, as well as a conversion feature that lets you quickly convert the current number using scores of functions, in categories ranging from angle to fuel efficiency to weight.

Developer TLA Systems continues to add many new conversions within existing categories, as well as new currency and cooking categories. The Constants and Conversions menus conveniently display recently used options in the top menu bar, and you can even create your own.

# CALCULATOR

BY DAN FRAKES

## UPGRADE TO



PCalc

The basic Calculator app is good enough for simple calculations, but if you want a full-dress scientific calculator you'll find no better app than **PCalc**

(£6.99; [tinyurl.com/ktnc7qj](http://tinyurl.com/ktnc7qj)).

It offers a panoply of features that are on a par with those of its Mac counterpart, including separate interfaces for the iPhone and iPad, scientific calculations, conversions and iCloud syncing.

Given those features, and the fact that Apple mysteriously omitted a default calculator app from the iPad, PCalc and its sibling, PCalc Lite (free), are incredibly appealing to users who need a good calculator on their device.

PCalc packs all the number-crunching goodness found in scientific-calculator fare, including roots, exponents, trigonometric functions, nested operations, a reverse Polish notation (RPN) mode, an inverse function and more. And it provides a time-stamped virtual tape for revisiting (or even emailing) your calculations, as well as a register (called a *stack* in RPN mode) that displays memory contents and decimal-, hexadecimal-, octal- and binary-base versions of the number displayed.

To customise your calculator you can choose from a slew of visual themes and several key layouts – nine vertical and eight horizontal on the iPhone. (The iPad's larger screen accommodates more keys, which means less need for different key arrangements and subsets of possible keys.)

You can also choose one of seven font styles for the virtual LCD, and any of six key-click sounds.

## More features

You can copy results from the display, and paste numbers into the display for use in calculations. You can also undo and redo multiple actions: on an iPad you get dedicated Undo and Redo buttons, and on all devices you can shake to undo or simply swipe your finger across the screen – right to undo, left to redo.

In addition, PCalc lets you change the number of lines in the display – having more lines is especially useful in RPN mode. You can have up to four lines (six on the iPad), and the onscreen keys shrink or grow to fit the chosen size.

**Numbers upgrade**  
PCalc can crunch the numbers.

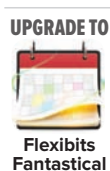
## PCalc Lite

Not everyone needs all these features, nor does everyone want to spend £6.99 on a calculator for their iPhone or iPad. PCalc Lite is a free version that gives you a subset of the full version's features, constants and conversions. For many people, PCalc Lite will be sufficient.



# CALENDAR

BY LEX FRIEDMAN



Flexibits' **Fantastical** (£2.99; [tinyurl.com/kkLdc3f](http://tinyurl.com/kkLdc3f)) started life on the Mac, offering easy access to your calendars and impressively quick approaches for creating

new appointments and meetings. The app has since made the leap from the Mac to the iPhone – and it sticks the landing, although it has shed a few of the features that made it stand out.

When you first launch Fantastical on your iPhone it will ask you to grant it access to your calendars. After you approve the request, Fantastical can act as a seamless conduit for any calendars you've added in the Settings app.

At the top of the screen in Fantastical sits a clever Flexibits innovation called the DayTicker. It's a horizontally scrolling list of dates, with visual representations of your appointments for each day. Your list of scheduled events for each day appears on the lower portion of the screen.

## FANTASTICAL, WHICH OFFERS EASY ACCESS TO YOUR CALENDARS ON THE MAC, HAS MADE THE LEAP TO THE IPHONE – AND IT STICKS THE LANDING

Whereas Apple's Calendar app offers day, month and week views in addition to its list mode – along with an endlessly scrolling landscape mode – Fantastical's focus is instead on a list-based approach.

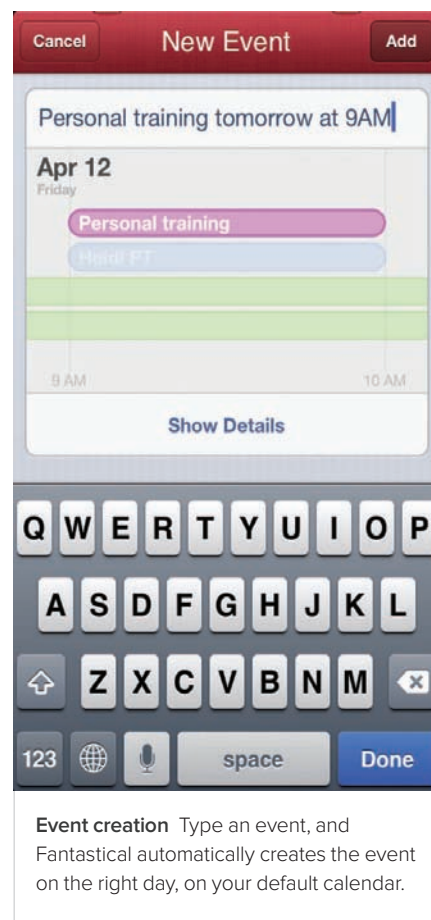
As you navigate the Fantastical calendar, you'll find it both clever and intuitive. Scroll through the vertical list of appointments by day, and the DayTicker scrolls horizontally along with it to centre the currently selected day. Tap and hold on a day to start adding an event for that day; double-tap a day to centre it. Tap the header bar (it shows the current month and year) to jump back to today's date.

The other way to schedule a new event is to tap the plus button at the

upper right. True to Fantastical's origins on the Mac, the app won't show you a traditional calendar entry form. Instead, you get a text entry field. You may be tempted to tap the microphone button on the keyboard to dictate instead of typing in an event. Either way, as on the Mac, Fantastical is simply terrific at taking natural language that you provide and turning it into a scheduled calendar event.

For example, if you type 'Personal training tomorrow at 9AM,' Fantastical automatically creates the appropriate event on the right day, on your default calendar. Instead of 'tomorrow,' you might type 'fri' or '6 dec' or any other abbreviation of a recognisable date. The app generates a live visual preview of the event it's interpreting from your entry, and you can drag from side to side to see any adjacent appointments.

The feature needs work, though: the bubbles with your other scheduled appointments are sized according to



a triple space, and then 'work' gets the same thing done. You can use shortcuts for your calendar names, too; the first few letters should suffice.

Fantastical does face a few limitations that Apple enforces with iOS. On the Mac, Fantastical lives in your menu bar, so you can click its icon there or press a global keyboard shortcut to immediately start entering a new appointment or quickly view your schedule; such features can't be re-created on the iPhone.

Of more concern is Fantastical's inability to invite other people to your meetings and events – another iOS limitation. You can use Fantastical to add or edit guests to a meeting that already has invited guests, but you can't invite others to a brand-new meeting.

One final issue: Calendar alerts from iOS launch the Calendar app and not Fantastical. Since iOS doesn't let you choose new default apps for the calendar (or email, web browsing and the like), no workaround is available.

### Shortcuts and issues

If you want to add an event to a specific calendar (not the default calendar you've selected in Settings), Fantastical makes that simple, too. You can use the Mac version of Fantastical's shortcut, the slash key, as in 'Lunch with Jason/work'. But since the slash key is in another section of the iPhone's keyboard, Fantastical provides another shortcut: the triple space. Entering 'Lunch with Jason',



# CONTACTS

BY JOEL MATHIS

## UPGRADE TO



Buzz Contacts

It's easy – and cheap – to stick with the native apps that Apple installs on its iOS devices. But sometimes third-party apps turn out to be head and shoulders

above those that come preinstalled.

**Buzz Contacts** from Savvy Apps (Free; [tinyurl.com/m2jh4tb](http://tinyurl.com/m2jh4tb)) is in that rare category: it blows away Apple's native Contacts app. (The developers describe Buzz Contacts as an iPhone dialer, a contacts app, and a texting and group text messaging app all in one.)

The native Contacts app defines just two groups of people: your favourites and, well, everybody else. Buzz Contacts lets you organise your contacts (for phone, email, FaceTime and SMS) into as many different kinds of groups as you want – friends, family members, clients at specific companies, or any other preference that you might have.

This preorganisation of contacts makes it easy to send out bulk email or SMS messages to an entire group, without having to take the time to individually add each name and number to your message.

You can't similarly do conference calls or group FaceTime chats, but it's still helpful to organise contacts in groups. For example, if you remember that you need to email a client in Milwaukee, but you've forgotten her name, she might be easy to find in the Clients folder of contacts you made – a quick search in that folder is certainly easier than scrolling through one long list of hundreds of names, as you would have to do in the native Contacts app.

The Groups view displays contacts as large tiles – four to a page – so scanning for names is especially easy.

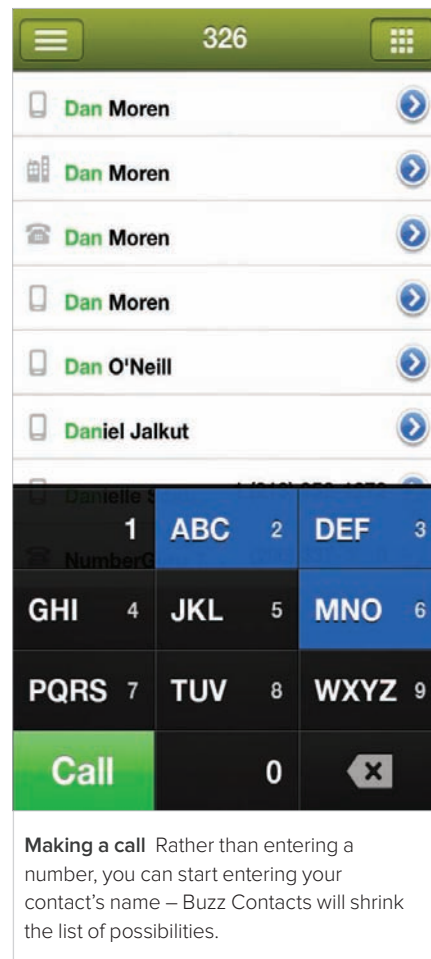
## Modes of contact

When you add a new contact, Buzz Contacts lets you choose your primary mode of contact with that person – voice, email, SMS or FaceTime. You aren't limited to communicating with your friends through this primary mode that you designate, but the app does let you set up your preferences for communicating with each person.

If you want to call a friend, you can use his or her number – the same as in Contacts. However, you can also start typing a full name or merely the initials – Buzz Contacts will narrow down your list of contacts until you get to the right one.

Similarly, Buzz Contacts is smarter about creating a type of favourites list for you, making a separate folder of contacts for people you call more than once.

**Keep people organised**  
Buzz Contacts lets you arrange your contacts into the groups you want.

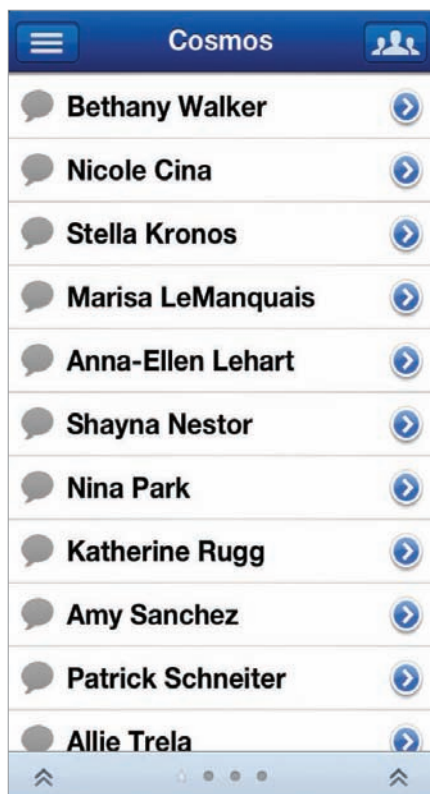


Buzz Contacts also doesn't assume that you'll want to use the Phone app to make phone calls – it offers options to default to several voice communication apps, including Skype, when you dial out.

## Dropbox integration

And while it's difficult to start an email in Contacts and then attach a document from another app, Buzz Contacts offers integration with both the Box and Dropbox apps on your iOS device.

If you've also purchased Savvy Apps' companion scheduling app, Agenda Calendar 4 (69p; [tinyurl.com/m48erq3](http://tinyurl.com/m48erq3)), the two apps work in tandem to remind you when you need to send a particular email message or schedule a certain business call.



# MAIL

BY LEX FRIEDMAN

## UPGRADE TO



Mailbox

**Mailbox** (free; [tinyurl.com/k3fpnLt](http://tinyurl.com/k3fpnLt)) is an iPhone app from Dropbox that makes managing your email a delight. Mailbox works exclusively with Gmail

accounts, although the developer says that support for other IMAP accounts will come. Once you've connected one or more Gmail accounts to the app, you can start managing your email in a new and enjoyable way.

Like Mail, Mailbox offers an optional unified view of your inboxes, although

to reappear at the top of your inbox: later today, this evening, tomorrow, this weekend, next week, in a month or 'someday'. You define the latter option in the app's settings in terms of months; the default is to remind you in one month. A date selector lets you choose the exact date and time the message should pop back up.

The app's collection of settings gives you fine control over all the preset snooze durations, too: you specify what qualifies as mornings on weekdays and weekends, for example.

by a 1, or the number of conversations in your inbox.

Composing messages is simple, and here Mailbox again bests Apple's Mail app. You tap the camera icon as you write your email to choose an existing photo or snap a new one. Apple's app requires that you first tap an empty spot in your message, then tap the Insert button, and finally select an existing photo. Mailbox offers more features and more efficient access.

So what's missing? Not much. Adding per-account signatures, rather than the current one-signature-fits-all approach, would be nice. And we can't find a way to get Gmail's Send As feature to work with the app. Mostly, though, our primary complaint about Mailbox is that we want to use it on all our devices, including the Mac and the iPad, not just the iPhone.

## OUR PRIMARY COMPLAINT ABOUT MAILBOX IS THAT WE WANT TO USE IT ON ALL OUR DEVICES – INCLUDING THE MAC AND THE IPAD – AND NOT JUST THE IPHONE

you can choose to dive into individual accounts instead. What sets Mailbox apart is its approach to managing the contents of your inbox.

As you navigate your inbox, you can tap a message to view it. But if, even before you open a message, you determine it's one you no longer need, you can file it away without ever leaving your list of messages: swipe right on a message and it turns green to show you're archiving it; pull a little further and it turns red to show you're deleting the message.

### A snooze button

You can, of course, perform those same actions from the message screen: Simply tap the tickbox to archive a message or the X to delete it. The process is intuitive, easy to master and kind of fun.

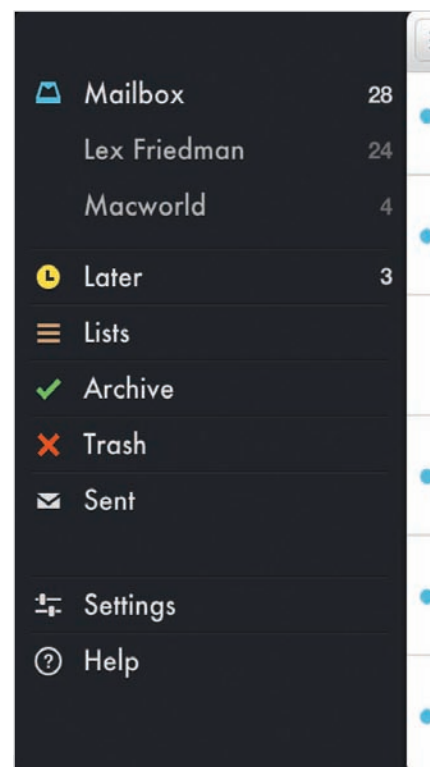
But easy archiving and deleting just scratch the surface of what Mailbox offers. Swipe left on a message – or tap the clock icon in message view – and you can in essence press the snooze button on it. You get a grid of options for choosing when you'd like that message

### An elegant solution

In practice, snoozing works beautifully, especially for those users who usually rely on the workaround of leaving unread messages in their inbox. Mailbox offers a more elegant solution. Snoozed messages pop back up – sending notifications on your iPhone, but also moving up in your other email clients, too.

In addition, you can tap and hold on messages in a list to reorder them by dragging. And Mailbox includes push notifications, as well.

The whole app feels beautifully polished, with impressive, discoverable depth: you can mark a message as unread by tapping its time stamp. Conversations threads with earlier messages collapse, but you can quickly expand them by tapping them. You can choose whether to receive push notifications for just new messages, just snoozed messages or both. You can also decide whether the app gets a numeric badge icon and what the icon represents – the existence of new messages, indicated



**Email made easy** Mailbox's icons help you easily manage your email – and that's just scratching the surface.

# MESSAGES

BY LEAH YAMSHON

## UPGRADE TO



WhatsApp



Kik

Text messaging is an integral part of using a mobile device, and Messages for iOS – specifically its integration with iMessage – makes it a joy to use. But the way Messages works is a little archaic, especially when compared with some

newer options in text messaging.

Although alternatives exist, they all have a fatal flaw: they let you communicate only with people who are using the same app. Our favourite third-party chatting app is **WhatsApp Messenger** (Free; [tinyurl.com/bLrovvg](http://tinyurl.com/bLrovvg)). WhatsApp sends messages over Wi-Fi, much as iMessage does when messaging from one Apple device to another. That allows you to send text-like mobile messages to your friends with any device or on any carrier without eating up your free messages allowance. You can also exchange messages with friends who live outside the UK, provided you have a data connection.

**It's a kick** A free alternative is Kik Messenger.

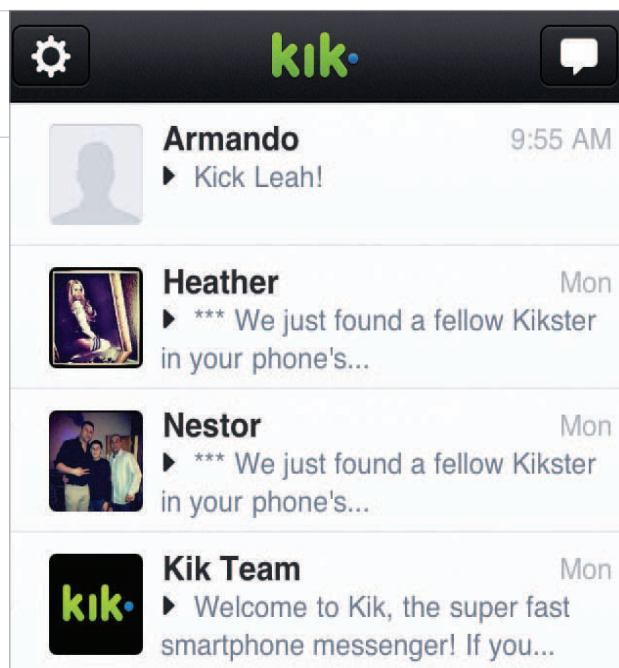
When you first install WhatsApp, the app searches your Contacts (if you allow it to do so) to find other WhatsApp users. This step is important, as you can send messages only to other people who are using WhatsApp – the app is available for iOS, Android, BlackBerry and Windows Phone 8.

Messaging itself is pleasant. You can enable Push Notifications to get a ping whenever you receive a WhatsApp message. The messages have a similar layout to iMessages, showing a staggered back-and-forth exchange with your messages on the right and those of your chat partner on the left. When you successfully send a message, you see a small tick next to its chat bubble; a second tick indicates that your friend on the other side has received and read it.

WhatsApp smoothly handles multimedia messages. You can capture a new photo or video to send (or pull one from your Camera Roll), send an audio note, and share a contact or a location. The last option is handy for organising a get-together with friends.

A close second is Kik Interactive's **Kik Messenger** (free; [tinyurl.com/k97bfzo](http://tinyurl.com/k97bfzo)), a messaging platform that allows you to

**Text chatting** WhatsApp Messenger lets you exchange text messages with other users.



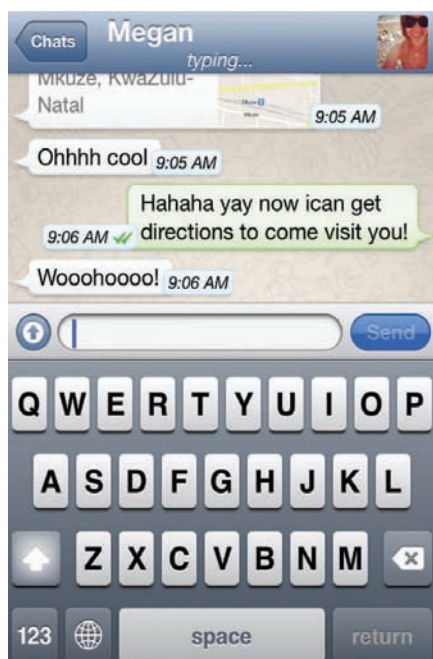
send notes to other Kik users. It's not as full-featured as WhatsApp, but it is available on the same platforms.

Kik requires you to enter your name, email address and phone number (kept private by default), along with a username and password. When the app is installed, Kik searches through your iPhone's contacts for other Kik users with whom you can exchange messages.

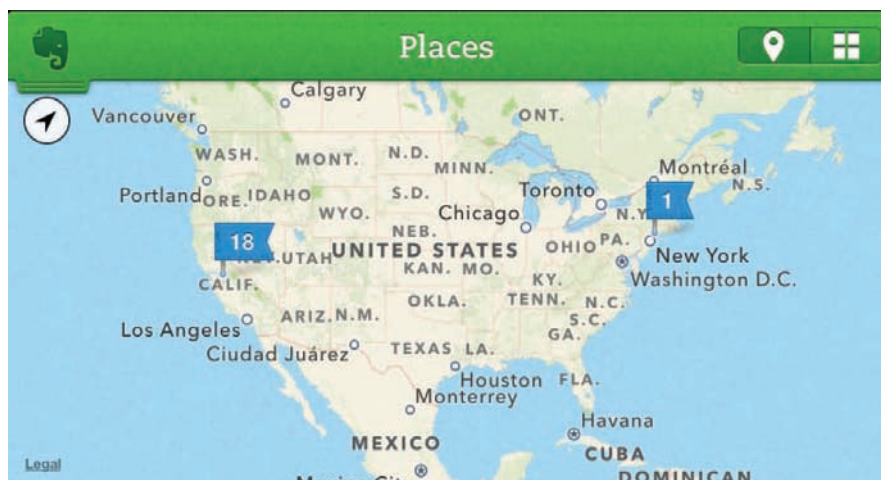
Chatting is pretty smooth. The app stores your entire conversation thread, with your messages on the right and your partner's responses on the left. As in WhatsApp, when you successfully send a message a small tick appears next to your speech bubble; when your friend reads it, a small letter R appears next to the tick.

Sending multimedia messages is quick and painless. Tap the plus button (+) next to the text box to access your Camera Roll or to take a new photo.

Unique to Kik is its interactive extra features: slide to the left from your main inbox and tap More, and you can access attachments such as YouTube videos.







**Where was it?** Flags show the locations tied to specific notes.

map; as shown in the screenshot at left, flags on the map indicate locations that

are associated with the notes. You simply tap a flag to bring up the notes.

The new interface has a few annoyances. If you make the common gesture of swiping rather than tapping to close an expanded tab, it's easy to accidentally invoke Notification Manager. And on the iPad, the Card view of your notes isn't as information-dense as the simple list view that was found in older versions of Evernote.

# NOTES

BY TOM NEGRINO

## UPGRADE TO



Evernote

Apple's Notes app is great if you need to quickly jot down something and have the item synced with your Mac and your iCloud account on the web. But

it runs into challenges when you attempt to sync anything more substantial than the odd note.

**Evernote** (free; [tinyurl.com/n95scjx](http://tinyurl.com/n95scjx)), the note- and snippet-management service, offers both basic note-taking and advanced organisation. The iPhone client sports an all-new interface that simplifies the process of capturing new notes and improves Evernote's organisational tools.

To begin creating a note you use one of the three new Quick Notes buttons. All versions of Evernote permit you to type text notes and to take photo notes with your device's camera. A new mode for iOS clients, Page Camera, masks images to take pictures of pages with handwritten notes from special Moleskin paper notebooks, dubbed Evernote Smart Notebooks.

After you capture a note, Evernote automatically uploads everything within it to the company's servers, where your notes are indexed for easy search and retrieval, and become available for syncing to all your devices. If your new

item is a picture containing words (even handwriting), Evernote runs optical character recognition on its servers to make searchable the picture's text.

## New interface

The previous versions of Evernote for iOS employed a standard iOS interface. For example, on the iPad Evernote presented a scrollable list of notes on the left side, flanked by a large area to the right for displaying the selected note, and toolbars at the top and bottom. Evernote 5 has completely refreshed the interface – successfully, for the most part. Notes now appear in four different views: All Notes, Notebooks, Tags and Places. Tapping a tab header expands the tab to take up most of the screen and to display its contents. Tapping or swiping down on the tab's header closes it.

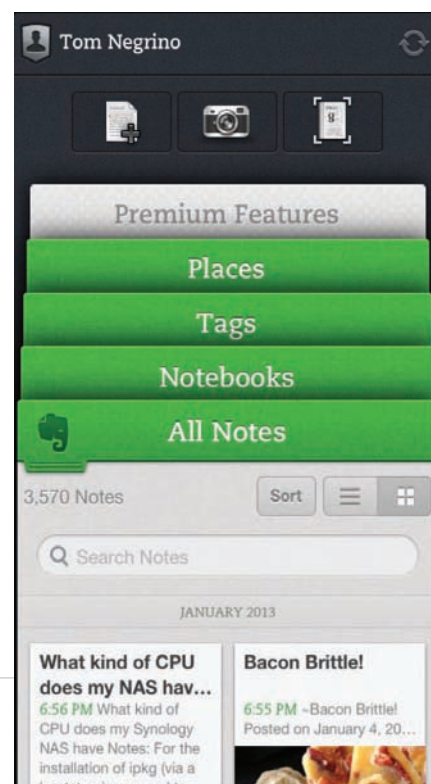
The All Notes tab shows all of your notes, without further organisation. If you would prefer to use Evernote's organisation tools, you can find them under the Notebooks or Tags tabs. The new Places tab, which is the same as the desktop version's Atlas view, shows notes (most often photographs) with geolocation tags on a zoomable

**Four views** Evernote 5's tabs give different views of your notes.

## No Marker Felt

Whether you are new to Evernote or are just getting around to upgrading to the latest version, you'll find that the new iOS version of Evernote makes the experience of capturing and retrieving your notes faster and smoother. It syncs with Evernote clients on the Mac and on the web, and it offers greater note-taking options than Notes does.

Best of all, you don't have to type your notes using the Marker Felt font.



# REMINDERS

BY LEX FRIEDMAN & DAN MOREN

## UPGRADE TO



Clear



Checkmark

Apple's stock Reminders app is pretty barebones, but it integrates tightly with Siri, offers location-based reminders, and gets the job done. The App Store is rife with more-complex task-management offerings that add filters, priority-based sorting, tags, contexts and

plenty more. Two provide nice variations on Reminders.

## Controlled with gestures

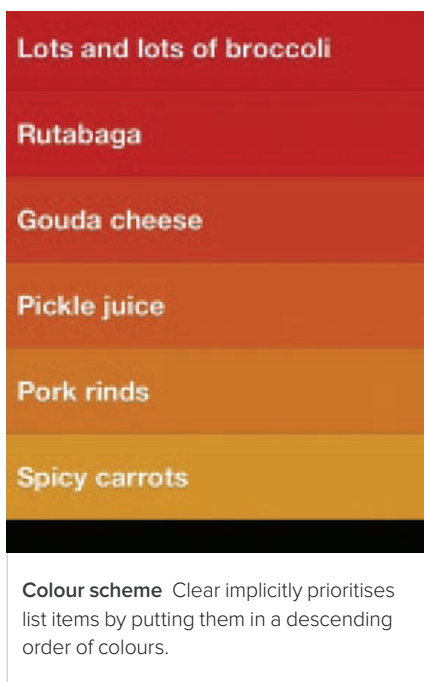
**Clear** (99p; [tinyurl.com/app7c75](http://tinyurl.com/app7c75)) sports a simple, no-frills interface that's about as basic as you can imagine: no reminders, no location-aware alerts – not even due dates or notifications.

Upon first launch, Clear steps you through the process of using the app – you control it almost entirely with gestures, but the gestures are ones with which iPhone users are well-acquainted: swiping, pulling, pinching and tapping.

The app has three levels of hierarchy. At the top is a menu, which contains My Lists, a variety of themes to choose from, a set of tips and tricks to which to refer, and the program's meagre settings.

Tap My Lists in the menu to drill down to the second level, where your lists live. Next to each list is a number showing how many items it contains (excluding completed tasks). You can create a new list in one of three ways, depending on where you want it to appear. To create a new list at the top, swipe down on the screen and release; you'll see the top of the screen flip over in faux-3D fashion, just as do iOS banner notifications. To create an item at the bottom of the list, tap anywhere below the last list.

Type in your list's name and you're all set. When you want, swipe left on it to delete it. Or swipe right on a list to complete all its items. To view the items, tap the list.



You create a new to-do item the same way you do a new list – by pulling down on the list and releasing, tapping in the spot below the last item, or pinching apart two items. As with lists, you'll be asked to enter the name of the item.

To mark a list item as complete, swipe it right; it'll flash green and slide to the end of the list, where the text will appear struck through and greyed out. If you prematurely cross off an item, swipe it to the right again to reinstate it. To delete an item entirely, swipe it to the left and it'll vanish. (But you can't undelete an item.)

Clear's lists can sync via iCloud to your other devices, or to Clear (£6.99; [tinyurl.com/khwos4b](http://tinyurl.com/khwos4b)) on the Mac.

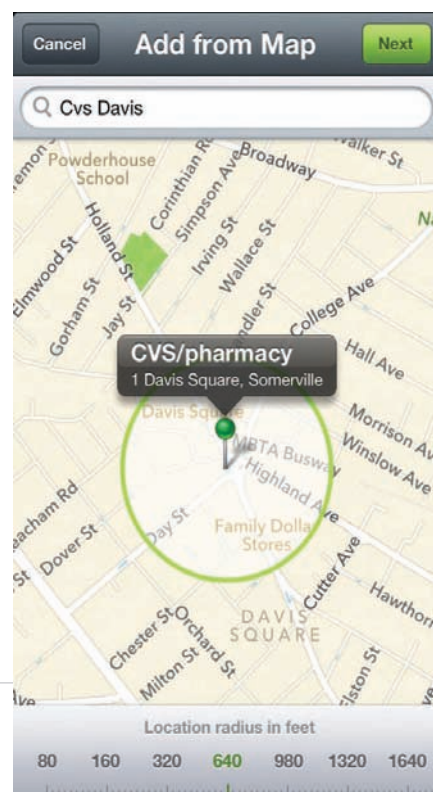
Our second Reminders alternative app is **Checkmark** (£2.99; [tinyurl.com/n866wm7](http://tinyurl.com/n866wm7)). This new app from developer Snowman ups the ante with a superior implementation of one of Reminders' key features: location-based reminders.

Checkmark addresses most

of Reminders' issues in a sleek, efficient interface. The app is broken down into two handy lists of reminders: Where, for location-based reminders; and When, for time-based reminders. You switch between the two using the Where and When buttons at the screen's bottom.

You won't find custom lists here: every reminder is tied to either a place or a time. Checkmark has no system for prioritising tasks; if you need that functionality, this app isn't for you.

Checkmark's location-based reminders trump those of Reminders. The app uses custom iOS home-screen-style pages of frequently visited locations. You add a location by using your current location, searching for a point of interest on a map, importing an address from your Contacts or manually entering an address. This means you can easily add not only locations such as home or work, but also other places.



**Location, location**  
Set up location-based reminders in Checkmark.

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# THE NEW WORK MACHINE

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## *HOW TO MAKE THE iPad A BETTER BUSINESS TOOL*

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ILLUSTRATIONS BY DAN PAGE

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**I**f you've been anywhere near an office (or a coffee shop) in the past couple of years, you'll have seen that iPads are overtaking laptops as the tools of choice for today's mobile workforce.

This transition has, however, raised a host of questions. How do you ensure all your important files are with you, and how do you work with files that the iPad doesn't natively support? Is it possible to create and give presentations, and can you use your tablet for typing out long documents? What about making sure that your tablet doesn't run out of power?

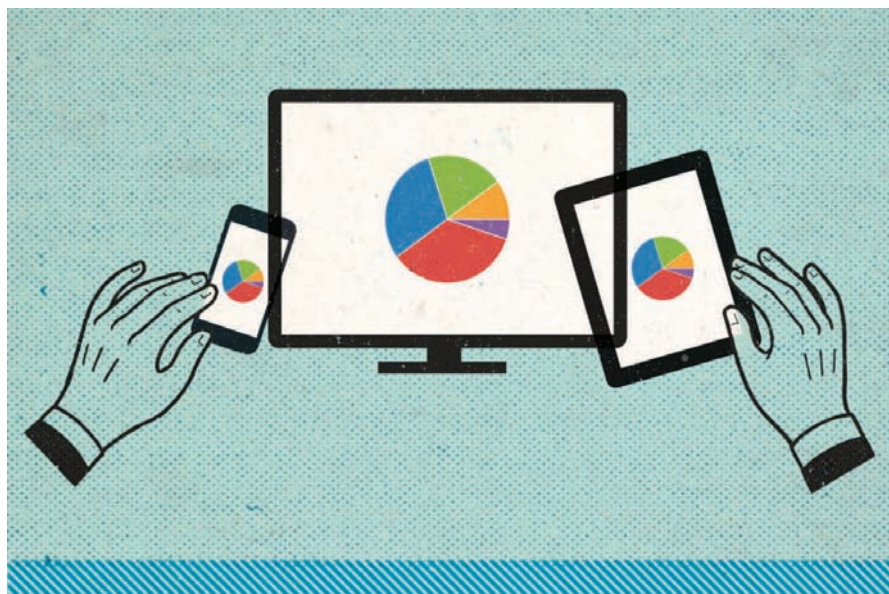
Not to worry: we have all the answers. We've surveyed the field of iPad-compatible file-syncing services, and tested six external batteries to find out which one will keep your iPad running the longest. We've also found ways to work with PSD files and other less popular formats, and have assembled a list of essential hardware and software that you should take to your next mobile presentation. Finally, we've rounded up a bunch of good-quality iPad keyboards.

And now, if you'll pardon us, we've got more work to do.









## WHY WE (STILL) USE DROPBOX

USERS HAVE LOTS OF WAYS TO SYNC FILES WITH  
AN IPAD. HERE'S WHY WE HAVEN'T SWITCHED

BY LEX FRIEDMAN

**T**he odds are that you probably already use Dropbox ([www.dropbox.com](http://www.dropbox.com)) on your Mac for syncing and sharing files. (If you don't, you should.)

Dropbox on the iPad isn't quite as full-featured as the desktop version, largely because Apple's tablet eschews a traditional Finder-style file system. Even so, the service represents the best way to sync files between your desktop and your iPad, as well as the best way to share files from your tablet with other people.

First, even if you use your iPad for work, you – or your colleagues – probably still use other computers, too. And since you save and sync so much business material via Dropbox already, it only makes sense to rely on the iOS app as well – free, [tinyurl.com/cel9cre](http://tinyurl.com/cel9cre).

There are plenty of other options (see *Alternatives to Dropbox*, opposite); the most prominent of which is iCloud. Even so, Apple's offering can't compete: files are limited to the apps in which they are created, and to the user who created them. And you can't use iCloud from your iPad to open a Microsoft Word file you created on your Mac.

### THE DROPBOX APP

The app shows you everything your Dropbox folder contains, including any shared folders you've joined. Your files and folders sit in a sidebar on the left, and the right side shows more details about the individual files you select.

Some common file formats – text, Office and iWork documents; audio files; videos; and photos – are viewable within the app. You may not be able to preview

less-common file types, but you can open your these in any compatible app installed on your iPad.

If you can't (or don't need to) open a document, and you only want to share it with someone else, you can do that, too. Dropbox offers sharing options via email, text message, Facebook message, Facebook post or tweet. All these sharing options rely on your sending a link to your file on Dropbox, from which your recipient must then download the file. (You can also copy the link to the Clipboard to share it in another way.)

You don't have to be online for the Dropbox app to function either – it caches files locally on your iPad. While you're online, you'll need to find those files and tap the star icon; from that moment on, each file will remain available for you to access within the Dropbox app, even if there's no internet connection.

### WRITING APPS

There's more to Dropbox on the iPad than just the app. A slew of other third-party apps ably integrate with the service, so you can use them to create and work with all kinds of documents and files.

Dropbox-enabled text editors are very popular in the App Store. Our favourite is iA Writer (69p, [tinyurl.com/p98yu52](http://tinyurl.com/p98yu52)). Other offerings include Nebulous Notes (£2.49, [tinyurl.com/op3rp9v](http://tinyurl.com/op3rp9v)) and WriteRoom (£2.99, [tinyurl.com/pdmk6fb](http://tinyurl.com/pdmk6fb)). Such apps have a variety of features for writing and note taking, including modified versions of the iPad keyboard, with extra keys for punctuation, symbols and cursor navigation. More importantly, they all sync tightly with Dropbox.

The edits you make to text files in those apps can save to Dropbox as you work, automatically. That makes managing, syncing and sharing such files a lot easier. This arrangement is far better than having to send emails confirming that you have the latest version of a file in your inbox before editing it, and then having to ensure your colleagues all work from the version with your changes.

Compare that to the process with an app such as Pages (£6.99, [tinyurl.com/ngyyw6y](http://tinyurl.com/ngyyw6y)). When you use the Dropbox



### Ready access

On the iPad, the Dropbox app lists everything in your Dropbox folder, including shared folders. It also allows you to view common file formats.

insufficient. Apps such as Readdle's PDF Expert (£6.99, [tinyurl.com/cz29fud](http://tinyurl.com/cz29fud)) let you access PDFs from your Dropbox folder, and allow you to save changes – including annotation, edits, and signatures – back to Dropbox again.

Readdle's Scanner Pro (£4.99, [tinyurl.com/a8x9v5k](http://tinyurl.com/a8x9v5k)) allows you to scan documents by photographing them with the iPad's built-in camera, and then push all those scanned images to your Dropbox folder.

### IT JUST WORKS

Thanks to the vibrant developer support for Dropbox, it's frequently the best service for iPad-toting professionals. When it comes to making documents easy to share and sync, ubiquity is important, and the service offers that. Free Dropbox accounts provide 2GB of storage. Annual paid plans offer 100GB (\$99, £66), 200GB (\$199, £132) or 500GB (\$499, £330). Dropbox for Business plans start at \$795 (£528) per year for five team members and essentially limitless storage.

app to open a document in Apple's word processor for iOS, your changes save in Pages, but don't automatically save back to Dropbox again. You need to save the file in Pages, and then select the file in the documents viewer and tap the *Send To* button. Next, you'll have to tap the *Open in Another App* button, choose a file format (Pages, PDF or Word), wait while the file is generated, tap *Choose App*, and finally tap *Open in Dropbox*.

You can see why text editors with direct Dropbox integration are more appealing to so many business users.

### MANY, MANY OTHER APPS

Assorted other apps – focused on productivity, security, and the like – also offer Dropbox integration. For example, Phraseology developer Agile Tortoise also makes a popular app called Drafts (£2.49, [tinyurl.com/kp6s6ay](http://tinyurl.com/kp6s6ay)), which is designed for quick note taking. It launches promptly, ready in an instant to accept the notes you need to jot down, and then lets you perform an array of actions with those pieces of text, with robust Dropbox syncing as a core element. Drafts can also append new notes to existing files in Dropbox, making quick work of adding data to work logs.

Heavy-duty typists often rely on Smile Software's TextExpander on the Mac (£24.99, [tinyurl.com/lr22bej](http://tinyurl.com/lr22bej)), which syncs via Dropbox to the company's iOS app of the same name (£2.99,

[tinyurl.com/kxnqwk7](http://tinyurl.com/kxnqwk7)). The typing shortcuts you create on your Mac can automatically sync to the app, and those shortcuts in turn become accessible in many third-party typing apps.

If you frequently work with PDFs, you've probably realised that the iPad's built-in PDF preview functionality is

## ALTERNATIVES TO DROPBOX

Maybe Dropbox isn't for you. And even if you do rely on it for some syncing, that doesn't stop you from enjoying the benefits of other services when it makes sense to do so. Here are your main options.



**iCLOUD:** If you exclusively use Apple's iWork apps for your business documents, then iCloud ([www.icloud.com](http://www.icloud.com)) is unquestionably easier to work with than Dropbox. Instead of clicking on 'Open in...', you can open files from iCloud as if they were right there on your iPad.



**GOOGLE DRIVE:** Many companies depend on Google Drive for collaboration. Though comparatively few apps integrate with the service compared to Dropbox, Google's own official app ([tinyurl.com/osejo8r](http://tinyurl.com/osejo8r)) gives you quick access to your documents. It includes editing options, and lets you easily add other users to share your documents.



**SKYDRIVE, SUGARSYNC AND BOX:** These three services all offer Dropbox-style takes on cloud sharing ([tinyurl.com/psw3dya](http://tinyurl.com/psw3dya), [tinyurl.com/obmfvre](http://tinyurl.com/obmfvre) and [tinyurl.com/oh4dns3](http://tinyurl.com/oh4dns3) respectively). Like Google Drive, none can rival Dropbox's popularity among third-party app developers. Each company's iPad app is, however, similar to Dropbox's: you can get links to share your files, open files from the cloud by sending them to other apps, and move and rename documents as you desire.





## KEEPING A CHARGE

WE TEST THE BEST EXTERNAL  
BATTERIES FOR YOUR iPad

BY JAMES GALBRAITH

It takes a lot of power to light up an iPad's 9.7in screen – and even more for Apple's fourth-generation tablet's Retina display. That's why the device is packed full of battery capacity – an impressive 11,560 milliampere-hours (mAh) worth for the latest model. But although our battery tests have shown that, under heavy use, the latest iPad can last for over nine hours on a single charge, sometimes you need more.

Whether you're exploring the great outdoors or enduring a power cut, a portable charging device – in other words, a big battery – is handy. They can also charge your media players, smartphones, and any other mobile gear that draws electricity over USB.

We recently put six such devices through their paces and found that although all could help in a pinch, only one could provide a full recharge of a fourth-generation iPad.

### WHETHER YOU'RE EXPLORING THE GREAT OUTDOORS OR ENDURING A POWER CUT, A PORTABLE CHARGING DEVICE IS HANDY

#### WHAT TO LOOK FOR

When you're shopping for a portable charger, you should keep an eye out for several things, including capacity, convenience and cost. If you want one that offers the greatest amount of power for your iPad, iPhone or other USB-

charged device, look first at the unit's battery capacity. The batteries we tried range from 6,000 to 16,000mAh.

The downside is that higher-capacity batteries are generally larger and heavier than lower-capacity ones. If you're trying to pack light, adding a 450g charger to your bag may not be wise. Similarly, the higher a portable battery's capacity, the longer it will take to charge: some need as long as 14 hours.

Many portable batteries can charge over a Micro-USB cable, eliminating the need to pack another power supply. (They'll charge faster with your iPad's power adaptor, or another dedicated USB charger, than with a computer's USB port.) Some, however, require a particular AC adaptor, which is less convenient. A few

have AC plugs built in, so you only need an electrical outlet to start filling them up.

#### iSOUND PORTABLE POWER

Despite the name of its vendor, iSound, the Portable Power (£75, [tinyurl.com/q7uasoj](http://tinyurl.com/q7uasoj)) doesn't have built-in speakers.

But with a battery capacity of 8,000mAh, it offers decent charging power; and with five USB ports, it can accommodate more devices than most of the other models tested here. At 8.1 x 8.75 x 2.5cm, the 232g, squarish device is almost identical in size to Apple's older 85W MacBook Pro power adaptors.

Unlike most of the chargers in this roundup, the Portable Power comes with, and requires, its own power adaptor for charging. Interestingly, it also incorporates an LED flashlight, which may come in handy when you're searching your bag for the additional power supply you had to pack.

In our tests, the battery took around seven hours to charge fully; it charged our dead fourth-generation iPad to 53 per cent of its capacity in two hours, 45 minutes before running out of power.

Note that what you plug into the five USB-charging ports matters. You can, for example, have an iPad and one phone, or

five phones and no iPad. But if you add a second phone with the iPad, the LEDs on the Portable Power will start flashing, and all the devices stop charging until you cycle the battery's power button.

#### iSOUND PORTABLE POWER MAX

With a massive 16,000mAh capacity, the Portable Power Max (£87, [tinyurl.com/o5mtez](http://tinyurl.com/o5mtez)) was the only model on test here to fully charge our dead fourth-generation iPad. We were even able to plug in a second tablet and charge that by a small percentage before the battery died. The drawback to having so much capacity is that charging the battery itself took nearly 14.5 hours. The unit is also relatively large, measuring 8.1 x 14.5 x 2.5cm, and weighing 414g.

Like its smaller brother, it requires the included (and inconvenient) AC adaptor to charge. And also like the standard Portable Power, the Max's five USB ports



can't handle a lot of power-hungry devices. If you've connected a full-size iPad to it, adding more than one phone will stop the charging until you toggle the battery's power button off and on. As with the smaller Portable Power, we connected phones to all five USB ports without overloading the battery.



## COFFEE or lease a NEW MAC?

### COFFEE

<b>CAPPUCCINO</b>	<b>£2.45</b>
Go large?	<b>£0.40</b>
Extra Shot?	<b>£0.35</b>
Whipped Cream?	<b>£0.40</b>
Muffin	<b>£1.85</b>
Flapjack	<b>£1.75</b>

### NEW IMAC

<b>IMAC 27"</b>	<b>£1.90</b>
Go faster? - i7 CPU	<b>£0.50</b>
Extra power? - 16GB Ram	<b>£0.35</b>
Fusion storage?	<b>£0.25</b>
iPad mini	<b>£0.35</b>
Time Capsule	<b>£0.30</b>

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## JUST MOBILE GUM MAX DUO

If you like your mobile chargers with a splash of colour, then Just Mobile's Gum Max Duo (€120 [£104], [tinyurl.com/pfum6ug](http://tinyurl.com/pfum6ug)) may be for you – it offers optional rubber sleeves in red, blue, and yellow to cover its aluminium and black case. The device, which charges via an included Micro-USB cable, offers 11,200mAh of power, weighs 273g, and measures 8.3 x 11 x 2.6cm.

tougher sibling. It comes clad in a shock-absorbing, thick-rubber bumper, attached by six screws. Covering the sides, corners and bottom, the bumper protects the USB ports from shock and water. The bare top face of the battery presents four status LEDs.

The case adds a bit of bulk – the Powerstation Pro is slightly larger than the Duo, at 6.75 x 11.25 x 2.5cm – but at just 201g, this model is the second-lightest device we looked at. It has the

The device measures 9.1 x 9.9 x 2.8cm and weighs 283g.

Like iSound's products, the iCarrier loses points for requiring its own AC adaptor to charge itself. We also didn't like the battery's failure to make obvious to us which of its two USB-charging ports will support an iPad. (The ports are labelled Output 1 and Output 2, with the power output of each noted only in small print on the bottom of the device.) The iCarrier took nine hours, 10 minutes to charge, after which it was able to charge our iPad to 75 per cent of capacity.

## MANY PORTABLE BATTERIES CAN CHARGE OVER A MICRO-USB CABLE, ELIMINATING THE NEED TO PACK ANOTHER POWER SUPPLY

The 'Duo' in its name refers to the two USB-charging ports; one providing 2.4A (for iPads) and the other 1A (for iPhones, iPods and other lower-power devices). We were able to charge the Gum Max Duo, using Apple's iPad charger, in 13 hours, 14 minutes. When fully powered, the battery charged our fourth-generation iPad to 75 per cent of full capacity.

## MOPHIE JUICE PACK POWERSTATION DUO

Like several other batteries here, Mophie's Juice Pack Powerstation Duo (£79.95, [tinyurl.com/pvgf7pp](http://tinyurl.com/pvgf7pp)) can charge two devices at once. About the length and width of an iPhone 4, but twice as thick, this is the smallest and lightest charger of the group, measuring just 5.8 x 10.9 x 1.9cm and weighing only 200g.

The reason for its svelte size is that the Powerstation Duo only has a capacity of 6,000mAh, so unsurprisingly it gave us the weakest charging result here. It restored our fully-drained fourth-generation iPad's battery to just 39 per cent before running out of power itself. On the bright side, it didn't take long to charge, requiring six hours, 10 minutes using Apple's iPad USB power adaptor.

## MOPHIE JUICE PACK POWERSTATION PRO

Mophie's Powerstation Pro (£89.95, [tinyurl.com/o3fnv88](http://tinyurl.com/o3fnv88)) is the Duo's bigger,

same battery capacity as the Duo, at 6,000mAh, but it can charge only a single device at a time.

The Pro charged itself quickly, taking just five hours, 45 minutes to reach its full charge, and it charged our drained fourth-generation iPad to 42 per cent before running out of power itself. Unlike many of the other portable battery chargers here, the Powerstation Pro has built-in overcharge protection.

## NEW TRENT iCARRIER IMP120D

The iCarrier IMP120D (£34.95, [tinyurl.com/q98nurl](http://tinyurl.com/q98nurl)), is the cheapest battery charger here, yet with 12,000mAh, it has one of the highest capacities.

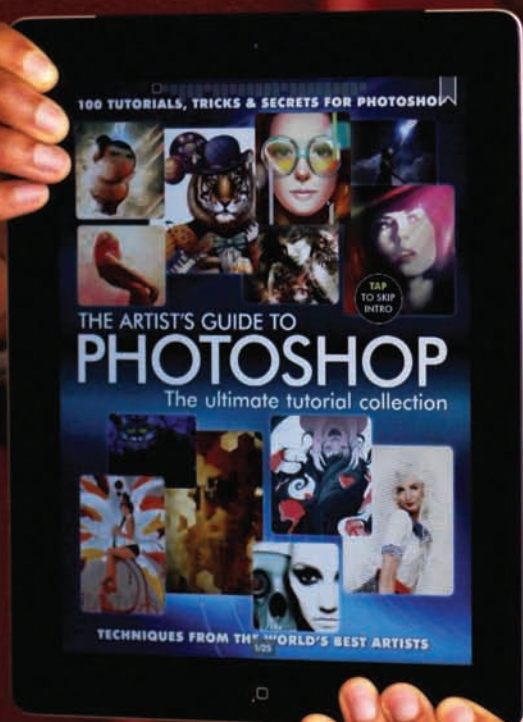
## MACWORLD'S ADVICE

No single portable charging device will suit everyone. People who travel light and are looking to add the least amount of weight and bulk to their carry-on bag should consider Mophie's Juice Pack Powerstation Pro. It's small and light, but rugged; it charges quickly over Micro-USB; and it will deliver several additional hours of life to your iPad.

If you value power, then the iSound Portable Power Max 16,000mAh is the highest-capacity battery here. It was the only model to fully power our dead fourth-generation iPad, and it can charge up to five phones at once. It's just a shame it needs an AC adaptor to charge.







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£6.99

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Get creative with a wealth of incredible professional tutorials for Photoshop in this new app for the iPad and iPad mini.

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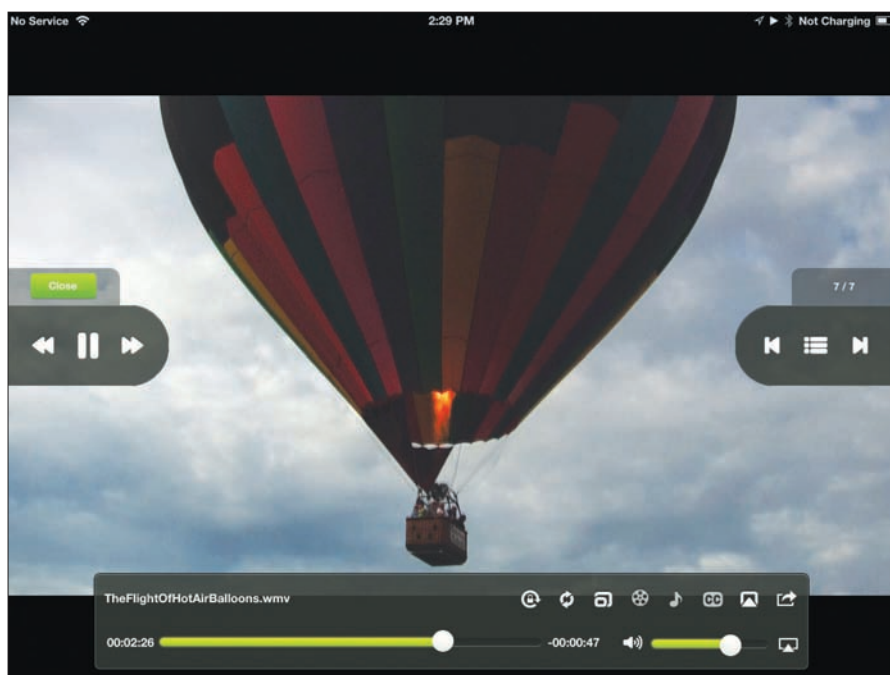
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# FUNNY FILE FORMATS

WHAT TO DO WHEN YOUR iPad DOESN'T  
KNOW HOW TO HANDLE A FILE

BY JOE KISSELL



**Movie playback** No single app can play every video format perfectly. Though not without its limitations, OPlayerHD is reasonably good at handling many types of audio and video files.

Since iOS supports many common file types, nearly any iOS app can display graphics, videos, PDFs, and Office and iWork documents. But

beyond the top 20 or so formats, your iPad may have no idea what to do. You can easily get a file onto your tablet (by syncing it in iTunes or by emailing it to yourself, for example), but opening and editing it is another story. Yes, you can use a conversion program on a computer, but what if you have only your iPad?

For the vast majority of file types, you can find at least one app – and sometimes dozens – that can open the file. It's a matter of working out which one

will best serve your needs. That task isn't always easy, though. Sometimes a file's extension alone doesn't reliably indicate what sort of content it holds, and apps' definitions of 'support' for file formats vary greatly. But with a bit of detective work (and our tips), you can find a way to use most kinds of data on your iPad.

## SEARCH TIPS

If you have a file that shows a generic icon in every app you try on your iPad, and displays no content when you tap it, you'll need to get some software that can deal with the file. You can look in iTunes on a Mac or PC, but we prefer to search in the App Store app on an iPad, because there we can sort the

apps (by rating, price, or popularity) and focus on iPad-native apps.

Try searching by file extension rather than by app function. If you have a video file in, say, .mkv format, search for 'mkv' rather than 'video' – the latter term will give too many matches to be helpful. This trick doesn't always work, but it can narrow the field. Here's some guidance about several common categories of files.

## COMPRESSED FILES

It's easy to compress a file or folder into ZIP (.zip) format on a Mac or PC. Other common formats include gzip (.gz), RAR (.rar), StuffIt (.sit), and StuffIt X (.sitx). If you receive such a file as, for instance, an email attachment on your iPad, you will naturally want to decompress the archive.

Lots of apps, including some you may already have, can see into at least a few of these formats. GoodReader for iPad (£2.99, [tinyurl.com/clispt46](http://tinyurl.com/clispt46)), for example, can open .zip and .rar archives (and can compress files or folders as .zip archives). The widest set of decompression formats we've found is in Archives (£1.99, [tinyurl.com/ojr7x6t](http://tinyurl.com/ojr7x6t)), which covers not only .zip and .rar, but many more, including .sit and .sitx, bzip2 (.bz2), .gz, LZH (.lzh), and even CD and DVD images in ISO and several other formats.

But remember, decompressing files is only half the battle: you still need to open whatever is inside. If your iPad doesn't already have a way to read the embedded file, you may need to return to the App Store for another app. (And in cases involving executable files and Mac disk images, you're out of luck – no iOS app that we know of can help with these.)

## GRAPHICS

The iPad can display Jpeg, Tiff, Gif and PNG graphics, as well as PDFs, without any extra software. But other graphics files, such as those in the native formats of Photoshop and Illustrator, require help.

Just a few iPad apps support Photoshop's .psd file format. Even Adobe's own Photoshop Touch (£6.99, [tinyurl.com/pc4txtd](http://tinyurl.com/pc4txtd)) can open .psd files only in a roundabout way that flattens the file's layers in the process. Instead,



**Open up** Among its many talents, GoodReader can decompress and compress ZIP archives, and display many common file types.

turn to Sketchbook Pro (£2.99, [tinyurl.com/ov27tjw](http://tinyurl.com/ov27tjw)) or Pixels Pro (£1.49, [tinyurl.com/pnq7dlt](http://tinyurl.com/pnq7dlt)), which can display and edit .psd files.

We couldn't find any iPad apps that can edit Illustrator (.ai) files, but did find one that can display them, as well as InDesign (.indd) files: SneakPeek (£6.99, [tinyurl.com/njuyem3](http://tinyurl.com/njuyem3)).

The SVG (Scalable Vector Graphic) format is another popular way to store vector illustrations, and numerous iPad apps can both display and edit such files. Examples include iDraw (£5.99, [tinyurl.com/oko77uw](http://tinyurl.com/oko77uw)) and TouchDraw (£5.99, [tinyurl.com/pqhvr6c](http://tinyurl.com/pqhvr6c)).

## AUDIO AND VIDEO

Most digital music files are in MP3 (.mp3) or AAC (.m4a) format, which iOS supports. iOS can also handle Audio Interchange File Format files (.aif or .aiff), WAV (.wav), and a few others. For Windows Media Audio (.wma), Ogg Vorbis (.ogg), or Free Lossless Audio Codec (.flac) files, try OPlayerHD Lite (free, [tinyurl.com/q9fu95z](http://tinyurl.com/q9fu95z)) or OPlayerHD (£2.99, [tinyurl.com/nrpayyp](http://tinyurl.com/nrpayyp)), both of which can also play other audio and video formats. Video is complicated because there are so many ways of mixing and matching video encoding, audio encoding and file formats. For successful playback, an app must support not only the file format itself, but also the audio and video encodings it contains.

Your iPad can natively handle .m4v files, most .mp4 and .mov files, and a limited subset of .avi files. For other videos, you'll need assistance. Before looking for apps, determine the file format, video encoding, and audio encoding for the videos you want to play. A quick way to check is to download

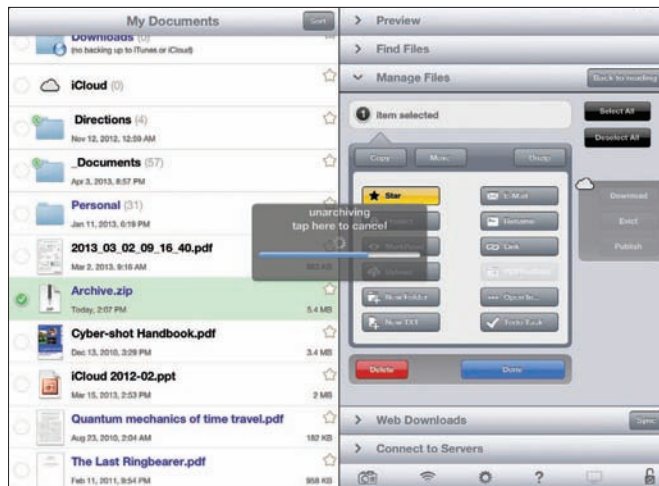
VideoSpec (donationware, [tinyurl.com/phoft3v](http://tinyurl.com/phoft3v)) and drop a video file on it.

We've yet to discover the perfect video app. In our tests, OPlayerHD worked for most of our AVI, Ogg Theora, and FLV videos, but those with AC3 audio made no sound, and WMV videos tended to play in slow motion. (OPlayerHD also supports Xvid, DivX, MKV and other container formats.) CineXPlayer HD (£2.49, [tinyurl.com/q8oyl5r](http://tinyurl.com/q8oyl5r)) played the AC3 audio from AVI videos, but with a blank screen (and it didn't support FLV or Ogg Theora). Infuse (£2.99, [tinyurl.com/oem4pad](http://tinyurl.com/oem4pad)) played sound and visuals from AVI files with AC3 audio, but the video often froze while the audio played.

These problems are enough to make us want to convert video files to an iPad-friendly format while they're still on a Mac.

## EBOOKS

Finally, a word about eBooks. Apple's iBooks app (free, [tinyurl.com/byydm47](http://tinyurl.com/byydm47)) can deal with .ibook files from the iBookstore, plus ePub and PDF files. Amazon's Kindle app (free, [tinyurl.com/cdpmzrx](http://tinyurl.com/cdpmzrx)) handles Mobipocket (.mobi), including Amazon's .azw variant with DRM, and PDF. Other eBook apps, including Barnes & Noble's Nook (free, [tinyurl.com/q85pxjt](http://tinyurl.com/q85pxjt)), support their respective file formats. If you want to read FictionBook (.fb2) eBooks, try Exlibris FB2 (£1.99, [tinyurl.com/o295y8v](http://tinyurl.com/o295y8v)), which also handles ePub. For the Palm .pdb and .prc formats, you can use eBookMobi (£1.49, [tinyurl.com/oy8ws9a](http://tinyurl.com/oy8ws9a)).





# FIND THE BEST iPad KEYBOARD

AN EXTERNAL KEYBOARD CAN BE A GREAT iPad ACCESSORY.  
HERE'S OUR GUIDE TO THE DIFFERENT KINDS

BY DAN FRAKES

If you type frequently – or if you just can't seem to get the hang of the iPad's onscreen keyboard – it's worth trying an external keyboard. You'll get the tactile advantages of physical keys without having to sacrifice the tablet's portability and touchscreen features.

The iPad supports almost any Bluetooth keyboard, but you can find many that are made for use with Apple's tablet and (often) include dedicated iPad function keys. Most keyboards are part of a protective case, although a few are standalone, and all use rechargeable batteries that last for weeks or months.

With the exception of standalone models, iPad keyboards make some

usability trade-offs. The thinner the keyboard, the worse the feel of the keys. The smaller the keyboard is, the more crowded the keys are, or the more likely it is to have keys in the wrong locations.

Over the years we've tested dozens of iPad keyboards. Here are the different types, along with our recommendations.

## FOLIO-CASE KEYBOARDS

The most common type of keyboard, these are integrated into a full-body, folio-style iPad case. The all-in-one design is handy, and most models make it easy to type on your lap. Along with keyboard shells, folio cases have the thinnest keyboards, but they tend to be cramped and have poor-quality keys, sometimes arrayed in odd layouts. Most limit the iPad to landscape orientation and one propped-up angle. On top of

that, using your iPad as a tablet while it's in the case can be inconvenient (you flip the keyboard behind the iPad, which makes for a bulky package); but because removing the iPad from the case is a hassle, you may end up carrying the keyboard even when you don't need it.

## RECOMMENDATIONS

**Belkin Ultimate keyboard case**  
£99; [tinyurl.com/k2p4rq8](http://tinyurl.com/k2p4rq8); iPad 3, 4

**Logitech Solar keyboard folio**  
£199; [tinyurl.com/nelvpeg](http://tinyurl.com/nelvpeg); iPad 2, 3, 4

## CLAMSHELL KEYBOARDS

These models essentially turn your iPad into a laptop: the tablet acts as the screen, while the keyboard and its enclosure, attached by a hinge, play the role of the laptop base. The drawbacks to most clamshell keyboards are that they can add significant weight and bulk, they make it difficult to use your iPad as a tablet, and they offer small keys in a cramped layout. But the quality of those keys is often a step up from that of the average folio-case keyboard. The design works well for typing on your lap too, and





most models provide a good range of screen angles. Like folio models, most clamshells hold the iPad in landscape orientation, though a few let you prop up the tablet in portrait orientation.

## RECOMMENDATIONS

### IVSO Bluetooth keyboard

£49.95; [tinyurl.com/kbe3pmh](http://tinyurl.com/kbe3pmh); iPad 3

### Cooper Kai Skel iPad keyboard

£39.95; [tinyurl.com/leqkeju](http://tinyurl.com/leqkeju); iPad 3, 4

## KEYBOARD SHELLS

Especially thin and light, these models integrate a slim keyboard into a rigid shell that protects the front or back of the iPad in transit. (Most cover just the tablet's screen, leaving the back exposed.) When you're ready to type, you pop the iPad out of the shell, and put it in a prop-up slot above the keyboard. Most shells support only a single angle, though they often let you use your iPad in portrait or landscape. Such keyboards can be cramped, and their keys are typically small. You can use a keyboard shell on your lap if you're careful, but these models are less stable on your lap than folios and clamshells.

## RECOMMENDATIONS

### Logitech Ultrathin keyboard cover

£89.99; [tinyurl.com/jw5ggcc](http://tinyurl.com/jw5ggcc); iPad 2, 3, 4

### Zagg ZAGGkeys PROplus

£89.99; [tinyurl.com/bra59cj](http://tinyurl.com/bra59cj); iPad 2, 3, 4

## KEYBOARD OVERLAYS

Secured with magnets or a sticky silicone, keyboard overlays sit on your iPad's screen and add a tactile feel to the tablet's software keyboard. They take up less space than a full keyboard and don't need batteries or charging, but we don't find them to be enough of an improvement over the iPad's keyboard to be worth the cost. And you must move them out of the way whenever you want to use the iPad's screen normally.

## STANDALONE KEYBOARDS

You carry a standalone keyboard separately from your iPad, and it usually requires a separate stand (or at least a case with a built-in stand). But such keyboards often have full-size, high-quality keys in a standard layout, and with a good stand you get better ergonomics than with a keyboard case. You can leave it behind when you don't need it, and you don't have to buy a new one when you upgrade your iPad. Such keyboards also let you use your favourite iPad case, and they work with any iOS device. We recommend this option unless you spend more time with a keyboard than without.

## RECOMMENDATIONS

### Amazon AmazonBasics Bluetooth keyboard with mini travel stand

£19.93; [tinyurl.com/q6qp2ha](http://tinyurl.com/q6qp2ha)

### Apple Wireless keyboard

£57; [tinyurl.com/bw52jby](http://tinyurl.com/bw52jby)

Up for some  
free cloud space?



## = iPad MINI KEYBOARDS =

The iPad mini may be perfect for carrying around in a bag, but its smaller screen can cause problems for touch-typists. That's why a physical keyboard is so appealing. However, because the mini has such a compact footprint, any keyboard case that attempts to match this must incorporate a cramped keyboard, with smaller keys. Most of the cases we've tested omit some keys altogether, or at best relegate them to Fn-key-enabled functions of remaining keys.

The result is that we've encountered just one iPad mini keyboard case worth recommending. Zagg's ZAGGkeys Mini 9 (£79.99, [tinyurl.com/l8pkznt](http://tinyurl.com/l8pkznt)), forgoes matching the mini's footprint in favour of promoting better typing. Since the Mini 9 is actually a couple of inches longer, its keyboard is about the same size as that of a standard keyboard case. It's the smallest product we recommend for a touch-typist with an iPad mini. Otherwise, you should get a standalone keyboard.

MacMate® Disk is now free.

[www.macmate.me](http://www.macmate.me)

# THE iPad PRESENTER'S TOOLKIT

HARDWARE, APPS, AND TIPS FOR GIVING PRESENTATIONS FROM YOUR iPad

BY JOE KISSELL



Adaptor (£35, [tinyurl.com/b9rwzj7](http://tinyurl.com/b9rwzj7)). If your presentation has audio (other than your voice), also carry a cable to connect your iPad's headphone jack to the amplification system; depending on the display, you might get audio via HDMI, but you definitely won't with VGA.

Cables limit your mobility, though. We like to walk around the stage, and we've had cables fall out of an iPad during a presentation. Sometimes we can use another iOS device, such as an iPhone, as a remote control for the iPad. For example, Apple's Keynote Remote app (69p, [tinyurl.com/kgjjcsu](http://tinyurl.com/kgjjcsu)) lets us do that if we're using Keynote for a presentation. In practice, though, we've found this to be a fiddly setup.

If your iPad runs iOS 5 or later, you have AirPlay mirroring, which lets you beam audio and video from your tablet to another device over Wi-Fi. An Apple TV (£99, [tinyurl.com/kmsncep](http://tinyurl.com/kmsncep)) is the ideal AirPlay receiver, and it's small enough for you to pack in your bag. It has only an HDMI output, though, so if you're going to be using a VGA display, pick up an adaptor such as the Kanex ATV Pro (£49.95, [tinyurl.com/b9r9po2](http://tinyurl.com/b9r9po2)).

If you have a computer available, you can install software that turns it into an AirPlay receiver, and then hook the computer to the external display. Two such options, both for Mac or PC, are AirServer (from \$14.99 [£9.85], [tinyurl.com/cx7e5be](http://tinyurl.com/cx7e5be)) and Reflector (\$12.99 [£8.55], [tinyurl.com/m8n7tqd](http://tinyurl.com/m8n7tqd)).

To use AirPlay mirroring, double-press the Home button, swipe the multitasking bar right, and tap *AirPlay*. Tap the name of the device you want for mirroring, and set the Mirroring switch to *On*.

A word of caution: your iPad and the receiver must be on the same Wi-Fi network, and the network must have several ports open (ports 80, 443, and 3689 for TCP; port 554 for TCP and UDP; and port 5353 for UDP). We've been to conferences where the public Wi-Fi networks blocked one or more of those. You might be able to create an ad hoc network on your Mac (choose *Create Network* from the Wi-Fi menu), but that may prevent your Mac from connecting

**T**he iPad is great for making live presentations, and in the App Store, you can find hundreds of apps designed to create, control and facilitate presentations. If you rely on your tablet for such tasks, you'll want to collect some hardware, software, and know-how to make the process smooth and flexible.

## HARDWARE

If you're giving a presentation to one or two people, you can show it on the iPad's screen. For larger groups, you'll want to use a projector, a TV or some other

external display, so you need a way to get your presentation onto the screen.

The most reliable method (if you have an iPad 2 or later) is to use an adaptor that connects to the display's input. Most projectors still use VGA inputs, so a VGA adaptor is a must. Apple sells a Lightning to VGA Adaptor (£39, [tinyurl.com/msbz8vq](http://tinyurl.com/msbz8vq)) and the 30-pin to VGA Adaptor (£25, [tinyurl.com/k6vplqf](http://tinyurl.com/k6vplqf)). (We always take one of these, even if we plan to give a wireless presentation, for reasons we'll explain in a moment.) For a display with an HDMI input, you'll need either the Lightning Digital AV Adaptor (£39, [tinyurl.com/mes4pa9](http://tinyurl.com/mes4pa9)) or the 30-pin Digital AV





**AirPlay receiver** With the Reflector software you can mirror your iPad screen onto your Mac or PC – either full-screen or in a separate window, with an optional iPad frame.

to add images, text, and animation over a continuously scrolling panoramic background. There's also MindShow (£2.99, [tinyurl.com/mkszwj5](http://tinyurl.com/mkszwj5)), which uses slides but permits you to arrange them as a mind map on a canvas that only you can see. You can then alter your path through the material in real-time, based on audience feedback.

**Specialised presentations:** If you want to create interactive presentations with real-time annotations, remote control of a Mac's screen, and other custom elements – including the option to save your presentation as a screencast with a voice-over – check out Doceri (free, [tinyurl.com/o7fybqs](http://tinyurl.com/o7fybqs)). Lawyers looking for a courtroom-presentation tool may like TrialPad (£59.99, [tinyurl.com/k9lqwqa](http://tinyurl.com/k9lqwqa)).

And for sales presentations, there's Plotline Media's StoryDesk (free, [tinyurl.com/leca8wf](http://tinyurl.com/leca8wf)), which lets you create elaborate, interactive presentation apps in a web browser, and view or edit them on an iPad; it relies on a cloud-based content management system that costs \$29 (£19.10) per month to use.

Regardless of the apps you choose, remember that they're merely tools made to provide visual reinforcement for your presentation. In the end, there's no substitute for a solid outline, well-honed speaking skills, and lots of practice.

to the internet. You may be able to use an AirPort Express or a similar device to set up a private Wi-Fi network, but the last thing you want to do is fiddle around with wireless settings when you're supposed to be presenting. That's why we have a VGA adaptor as a backup.

## SOFTWARE

As we noted earlier, the list of iPad presentation apps is huge. Here are a few major categories, with examples of each.

**Conventional slides:** If you favour the slideshow (or 'deck') metaphor, Apple's Keynote for iOS is the iPad app to beat (£6.99, [tinyurl.com/ad9ynfk](http://tinyurl.com/ad9ynfk)). It's powerful and easy to use, and your files sync automatically to other iOS devices and to the Mac version of Keynote.

Although Microsoft's PowerPoint isn't available on the iPad, numerous office suites can edit and display documents in this format. Most such apps, however, offer only a simplified display that lacks builds, animation, transitions, and other effects. If you made a PowerPoint presentation on a Mac and want to show it on an iPad with as much fidelity to the original as possible, SlideShark (free, [tinyurl.com/qx33n4l](http://tinyurl.com/qx33n4l)) is a good choice. It stores a copy of your presentations in

the cloud, and offers several plans ranging from free to £64.99 per year.

**Non-linear presentations:** If linear slideshows seem old hat, use an app that approaches presentations differently. Prezi for iPad (free, [tinyurl.com/dy8nugw](http://tinyurl.com/dy8nugw)) gives you an infinite canvas on which to place words, images, and video; you can then pan around, zoom in or out, rotate the canvas, and add effects. The app and basic service are free; for extra features, including non-public presentations, you'll pay at least \$5 (£3.28) per month. Another option is Scrollshow (£2.99, [tinyurl.com/pxpv9ou](http://tinyurl.com/pxpv9ou)), which allows you



## Not just static screens

Combining slides, timeline editing, screencasting and screen sharing, Doceri makes unique interactive presentations.

# Playlist

Everything you need to know about iPods, iTunes and Mac-based entertainment

## Ask the iTunes Guy

All about smart playlists, syncing, and working with iTunes Match

BY KIRK McELHEARN

**T**his month, we discuss syncing music to multiple iPods when your library is larger than the space on one device, how to create smart playlists, and matching tunes ripped from vinyl.

**Q:** I'd like to make a smart playlist that picks songs of a specific rating from a few genres, but that excludes certain artists who have their own playlists. Is there an easy way to do this?

**A:** You can design smart playlists that are extremely complex, incorporating conditions and nested conditions. We've created a smart playlist that matches what you want (see *Nested conditions*, right).

The playlist contains the condition Match all of the following rules, so it will include only songs that match all rules. The first section specifies three genres from which you want to pick songs; it uses the Any condition, so it can choose songs from any of the genres. The next section specifies a rating to whittle down the first selection. Finally, the third section specifies two artists and uses the All condition. You could do the same thing with individual smart playlists, but it's just as easy to put all of these conditions into a single playlist.

**Q:** My jazz collection is bigger than a single 160GB iPod classic can hold.



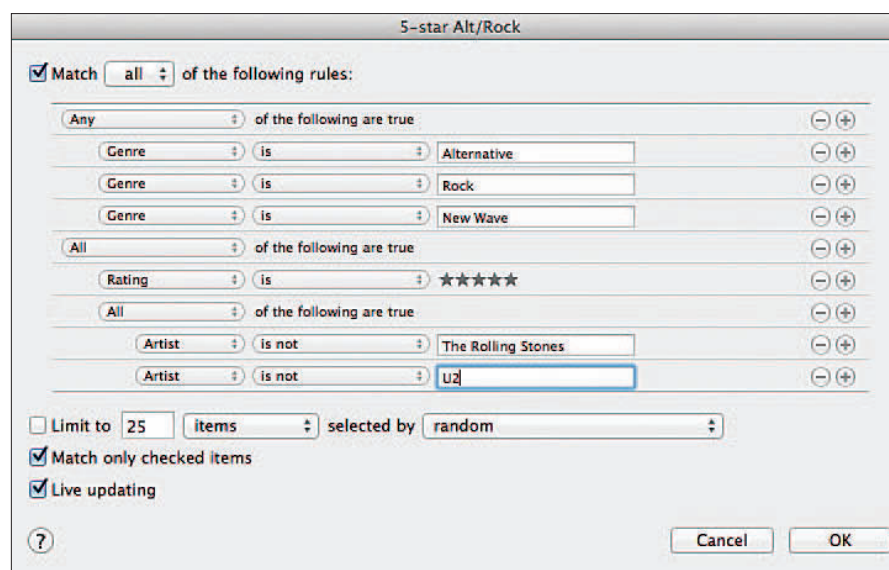
You can't easily create a smart playlist in which the beginning of artists' names ranges from A to L, for example

**How can I easily set up two 160GB iPods to hold only jazz music – with, for example, artists whose names start with A to L on one and M to Z on another?**

**A:** The simplest way to do this is to set up each iPod to sync a single playlist, and to create two standard (not smart) playlists by dragging all the music from the first group of artists to one playlist, and all the music of the second group to the other.

However, you probably want to be able to sync future additions to your library as well – and that's where things get complicated. You can't easily create a smart playlist in which the beginning of artists' names ranges from A to L, for example.

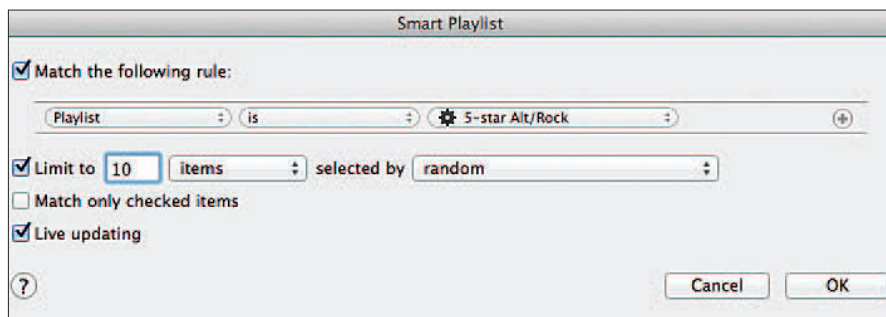
We can think of a couple of ways to add new music to these playlists. The first is to use the Recently Added playlist, which iTunes creates by default. Using this, you can find the tracks you've added lately and manually add them to your two jazz playlists according to the artists' names.



**Nested conditions** This smart playlist uses a number of conditions and nested conditions in order to create a list that more closely matches the kinds of songs you want to hear.

ILLUSTRATION BY MICHAEL SLACK





Another method, which is partly automated, is to use the Comments field in your tracks' tags. For example, you can add the comment Jazz1 for files that go in the 'A to L' playlist, and Jazz2 for files destined for the 'M to Z' playlist. You can do this for your existing music, and also insert the comment when you add new music to your iTunes library.

Then you can create a smart playlist with the condition Comments Contain Jazz1 for the first playlist, and Comments Contain Jazz2 for the second. Sync just the first or second smart playlist to each iPod, and whenever you add songs (and you have room on the respective music players), the tunes will sync automatically.

**Q: I have three playlists: 'Rock from 1980 to 2000', 'Pop from 2000 to 2010', and 'Jazz from 1995 to 2005'. I want to make a smart playlist containing a subset of songs from all three, as follows: 10 per cent of playlist 1, 25 per cent of playlist 2, and all of playlist 3. Is there any way to do this?**

**A:** Yes, but you'll need to create several smart playlists. Start with playlist 1. If it contains 100 songs, and you want 10 per cent of them, you'll need 10 songs. Create a smart playlist where the condition is Playlist is [playlist 1], and limit it to 10 items (see *Playlist smarts*, above). Do the same for playlist 2: make a smart playlist with the number of items limited to 25 per cent of its contents. Playlist 3 is your existing jazz playlist.

To group these, create another smart playlist with the following conditions (inserting the name of each playlist):

- Match any of the following rules
- Playlist is [playlist 1]

- Playlist is [playlist 2]
- Playlist is [playlist 3]

This will combine into one playlist all the songs you've put in the first two smart playlists, plus all the songs in the third playlist. You can refine this playlist by, for example, adding a condition that ensures that recently played songs are excluded: Last Played is not in the last 2 weeks.

**Q: I've set up iTunes to sync my iPhone and iPad wirelessly. If I open iTunes with my device turned on, it doesn't appear in iTunes. I have to reboot the device for it to appear. Is there a simpler solution?**

**A:** We find Wi-Fi syncing to be unreliable. Not only do devices occasionally disappear from iTunes, but they also don't seem to sync regularly (or often, even when we try to force a sync from iTunes).

One way to get the device to appear in iTunes is to connect it to your Mac via the 30-pin or Lightning cable that came with it. But another is to launch a sync

**Playlist Smarts** A smart playlist can limit the number of songs it contains.

from the device. On your iOS device, go to Settings → General → iTunes Wi-Fi Sync and tap Sync Now. This action almost always adds the device back to iTunes.

**Q: I'm converting a bunch of vinyl LPs in order to add them to my iTunes library. But I can't get any of these tracks to match with iTunes Match, even though the tracks are in the iTunes Store. I was hoping to match the music and stream it to my iPhone and iPad without the pops and clicks of vinyl. (I don't have any of the software that is supposed to clean that up.) Do you have any suggestions on how to 'force' iTunes Match to match these tracks instead of uploading them?**

**A:** The first thing to check is the bit rate you're using to digitize the music. iTunes Match won't accept anything under 96 kilobits per second. If you're using a higher bit rate, then we don't know what's happening; even with pops and clicks, the music should get matched. You might want to try ensuring that the volume is sufficient when you digitize the tracks; turntables output low volumes, and if you're not adjusting the volume, this might trip up iTunes Match.

If you have any questions for **Kirk McElhearn** send them to [itunesguy@macworld.com](mailto:itunesguy@macworld.com).

## iPods: Current line-up

PRODUCT	SPECS	RATING	PRICE <sup>1</sup>	DISPLAY	MORE INFO
iPod classic	160GB	★★★★☆	£199	2.5in colour	<a href="http://tinyurl.com/ol5wzn5">tinyurl.com/ol5wzn5</a>
iPod touch 5th generation	16GB	★★★★☆	£199	4in colour (Retina)	<a href="http://tinyurl.com/lx13f3y">tinyurl.com/lx13f3y</a>
	32GB	★★★★★	£249	4in colour (Retina)	<a href="http://tinyurl.com/pf74bao">tinyurl.com/pf74bao</a>
	64GB	★★★★★	£329	4in colour (Retina)	<a href="http://tinyurl.com/pf74bao">tinyurl.com/pf74bao</a>
iPod nano	16GB	★★★★☆	£129	2.5in colour	<a href="http://tinyurl.com/nplaqqt">tinyurl.com/nplaqqt</a>
iPod shuffle	2GB	★★★★☆	£40	None	<a href="http://tinyurl.com/of7nxde">tinyurl.com/of7nxde</a>

<sup>1</sup>All prices are Apple's prices

# Why the iTunes Store succeeded

Apple's ability to control all parts of the music experience helped its online music outlet triumph

**T**he traditional tenth-anniversary gifts of tin and aluminium are appropriate for the iTunes Store. Both durable and somewhat flexible, it has become the preeminent place to purchase music. Still, if not for the unintended assistance of a bungling music industry, the store might have been as ephemeral as iTunes' social service, Ping.

## Labels under pressure

Towards the end of the 20th century, computer programs appeared that could create digital copies of music stored on disc. Ripping CDs became common practice. With the help of broadband internet connections, people found they could share this music far more widely than before, via peer-to-peer sharing sites such as the original Napster.

From there, the story moves to the major music labels' boardrooms. CD sales were dropping, the singles market had mostly vanished save for dance music, illegal music sharing was on the rise, the labels' efforts to market and sell music online yielded a hodgepodge of failures, and too many executives (and lobbyists) insisted that if music were copy-protected and the worst file sharers prosecuted, the problem of illegal copies would disappear.

## Apple to the rescue

Then, in walked Apple with a compelling idea: people who are motivated to steal music will continue to do so. But if you make stealing more trouble than it's worth, by making digital music easy to find and purchase, and you price it reasonably, the vast majority of people will choose to buy rather than steal. And so the iTunes Music Store was born.

When it launched in April 2003, the iTunes Music Store was available only to Mac users, but Windows support was

added that October. And year after year, Apple's store grew – in capability, catalogue size, and number of sales – adding videos, apps and books, and eventually becoming the iTunes Store.

## Where it all leads

Why did it succeed where other services – such as those from EMI, Sony Music Entertainment, Time Warner, Universal Music Group and Virgin – failed?

Certainly the music industry's inability to devise a single strategy that served all labels, and its stubborn adherence to protection and prosecution, left Apple a very large hole to hop through. But its secret weapon was its ability to control all sides of the business: the cloud-based store; the client that people used to buy the music (iTunes, which Apple wisely gave away for free); and above all, the era's most popular music player, the iPod.

**The music industry's inability to devise a single strategy that served all labels left Apple a very large hole to hop through**



While other companies struggled to cobble together music services that clumsily delivered heavily protected music to a handful of third-party also-ran players, Apple owned and operated all the component parts. All that the company needed was the consent of the content owners. To our benefit (and to the ultimate chagrin of the music labels), record company executives failed to grasp the potential of an ecosystem that provided easy access to music at a fair price, and that played on history's most popular portable music player – and they allowed Apple to license their music. It caught on.

Happy as those executives were when ever-juicier cheques rolled in, that happiness dissipated when the labels felt their control slipping away.

"Sure, you're selling lots of singles for 69p and albums for £6.99, but we think popular tracks should go for more," they argued. "We demand the right to price music as we see fit!"

To which Apple replied: "No."

"We'll leave!" they cried.

"Go right ahead," responded Apple. "But before you do, recall the pickle you were in before we saved your butts."

"Grrrrr...", the labels grrrr-ed.

Over time, the labels have regained some authority. To get the labels to give up on copy protection, Apple relented on variable pricing. It also introduced services to help move more (and costlier) music – iTunes LPs, Complete My Album, pre-orders, and longer previews.

These, however, are compromises not of weakness, but of practicality and partnership. Apple, thanks to the iTunes Store, continues to have significant clout in the music business. As media production and delivery evolve in the coming years, Apple's influence is certain to be felt throughout the media world.



# iOS 7's design is its least exciting feature

Though the operating system sports a fresh new look, the most important changes are elsewhere

**D**ue to launch any day now, iOS 7 (previewed by Apple at WWDC) sports an overhauled look. With its parallax animation, flatness and 3D effects, iOS 7 seems like a brand new mobile operating system, albeit one you already know how to use. But don't imagine that the changes are only screen deep. Ultimately, the dramatic visual changes may be the OS's least exciting update. (See *Here Comes iOS 7* on page 20.)

The previews that Apple provided during the WWDC keynote and on its website clearly indicate that though iOS 7 appears very different, it's still basically the same operating system with which we've become familiar. The buttons look less like buttons, however, and there's a lot more white space and a lot less skeuomorphism to go around.

The visual changes include animated backgrounds, a new keyboard, new icons, and a new visual take on most of iOS's visual elements. But – and I mean this in the nicest possible way – so what?

## Annoyances eliminated

To me, the most annoying limitations of iOS include mediocre multitasking, lack of quick access to settings, and unsatisfactory battery life. iOS 7 purports to address all three. Control Center, a panel you can swipe up from the bottom of the screen, will offer non-stop access to toggles for Bluetooth, AirDrop, AirPlay, Wi-Fi, Airplane Mode, Do Not Disturb, and orientation lock; apps such as Clock, Calculator, and Camera; and even a built-in torch. I'd be eager to install Control Center on my iPhone even if it were iOS 7's sole new feature.

I'm excited about the announced updates for multitasking, too. Apps will now be able to pull down fresh data



Features such as Control Center and improved multitasking sound awesome, but are just the tip of the iOS-berg

even when they're not running, giving seemingly magical powers to the apps you rely on. You'll launch your podcasts app, or your Twitter app, or your read-it-later app, or anything else and, rather than wait for the latest content to download while you stare at a spinning ball, you should see the latest information already available.

Android owners, who have had such multitasking features for a while, may mock my enthusiasm for that feature's impending arrival. But Apple claims that iOS 7's multitasking will rely on intelligent algorithms. Apps you frequently use will get more time to work in the background than apps you use less often; and those you turn to first thing in the morning will pull down data before then, but perhaps not throughout the rest of the day.

Thanks to those multitasking smarts, the multitasking improvements in iOS 7 shouldn't ruin battery life.

## But wait, there's more...

What's really exciting about iOS 7 is that features such as Control Center and improved multitasking sound awesome, but are just the tip of the iOS-berg. Apple could build an entire iOS release around several other promised features, too: AirDrop will let you send files wirelessly to other people nearby without requiring any special configuration – and it's likely that such hassle-free, ad hoc connections will prove a boon to gameplay, too.

At WWDC, Apple showed off a new tab in Notification Center that looks downright Google Now-ish, mixing weather conditions with your next appointment, travel times and other such strands of information. And the new Missed tab in Notification Center will offer a feature that I've wanted since Notification Center's launch: a view seemingly sorted just like notifications on the lock screen, with most recent alerts first, instead of grouped by app.

When you factor in additional iOS improvements such as the faster camera with filters and other options, lots of enhancements to photo sharing and organisation, and new capabilities in Siri, you get the sense that this OS will be overwhelming. In a good way.

## More than screen deep

So yes, iOS 7 will immediately look different to anyone who spots it. I appreciate the design efforts behind such a change, and I don't doubt that countless iOS app designers will work to update their own apps to fit in better.

To me, though, the fresh coat of paint and special effects pale in comparison to the other, meatier features that Apple announced. Beauty is only screen deep; when I describe iOS 7's delightful features, I won't be referring to its looks. I can't wait to install it.